AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		1

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
R0002	08/13/03		

6. ISSUED BY CODE J4P0000

US ARMY ENGINEER DISTRICT, AK
CEPOA-CT (DACW85)
PO BOX 6898
ELMENDORF AFB, AK 99506-6898

GAIL M WEST (907)753-2551

7. ADMINISTERED BY *(If other than Item 6)* CODE DACA85

US ARMY ENGINEER DISTRICT, AK
CEPOA-CO-SAO
PO BOX 6898
ELMENDORF AFB, ALASKA 99506-6898

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

CODE 089C4 FACILITY CODE

(X) 9A. AMENDMENT OF SOLICITATION NO.

X DACW85-03-R-0001

9B. DATED *(SEE ITEM 11)* 06/27/03

10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☒ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 0 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. Accounting and Appropriation Data *(If required)*

PROJECT TITLE AND LOCATION: Nome Navigation Improvements, Nome, Alaska

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc).* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

PROPOSAL DUE DATE IS 09 SEP 2003, at 4:00 pm, local time, at US Army Corps of Engineers, 2204 Third St, Elmendorf AFB, Anchorage, Alaska.

NOTICE TO OFFERORS: PLEASE MARK OUTSIDE OF ENVELOPE IN WHICH BID IS SUBMITTED TO SHOW AMENDMENTS RECEIVED. YOU ARE REQUIRED TO ACKNOWLEDGE RECEIPT OF THIS AMENDMENT ON THE REVERSE SIDE OF STANDARD FORM 1442.

IMPORTANT NOTE: Keep in mind that the base is still under tight security measures, base access to non-DOD personnel is limited or restricted and requires extra time to process through the Boniface Gate.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF SIGNER *(Type or print)*	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY *(Signature of Contracting Officer)*	

a. The following drawings are substituted for the superseded drawings. The identifier "AM #2" appears before and after revised drawings as listed in SCR-5.

Drawing No. 6-NOM-94-03-01, Sheet No. 1 of 32 (Ref. No. LV-1)
Drawing NO. 6-NOM-94-03-01, Sheet No. 4 of 32 (Ref. No. H-3)

b. The following drawings are reissued to correct the line-weight printing issues.

0 Cover Sheet And Index Sheet

HYDRAULIC & HYDROLOGY

2 Survey Control
3 Site Plan
5 Sediment Trap X-Sections & Causeway Site Plan
6 Re-Built Causeway X-Sections & Spur Bw X-Sections
7 Main Breakwater X-Sections
8 Entrance Channel X-Sections & Profile
9 Dredged Material Disposal Area & Seawall Extension Plan
10 Dredged Material Disposal Area & Seawall Extension X-Sections
11 In-Water Dredged Material Disposal Areas
12 Navigation Aid Marker Base Details
13 Optional Barge Loading Ramp Dredging Plan & X-Sections
14 Optional Dredging Plan & X-Sections

STRUCTURAL

15 Causeway Bridge Layout
16 Sheet Pile Replacement 1
17 Sheet Pile Replacement 2
18 Sheet Pile Replacement 3

EXHIBIT DRAWINGS

19 Causeway As-Built
20 Causeway As-Built
21 Causeway As-Built
22 Causeway As-Built
23 Causeway As-Built
24 Causeway As-Built
25 Causeway As-Built
26 Causeway As-Built
27 Causeway As-Built
28 Causeway As-Built
29 Causeway As-Built
30 Causeway As-Built
31 Jetty As-Built Drawing
32 Fuel Live As-Built Drawing

c. The following revised documents are substituted for the superseded documents. The identifier "AM #2" appears before and after new and revised material, except as noted below.

PROPOSAL SCHEDULE

SECTION 00800: SPECIAL CONTRACT REQUIREMENTS

TECHNICAL SPECIFICATIONS (including submittal registers):

SECTION 02220 and Appendix B (Appendix A is not included.)

SECTION 02222 (Appendix A, B, & C are not included.)

NOTE: Revisions within the following documents do not contain the above referenced identifiers.

PROJECT TABLE OF CONTENTS
SPECIAL CONTRACT REQUIREMENTS INDEX
SUBMITTAL REGISTER FOR SECTIONS: 02220 and 02222

d. The following section (including submittal register) is deleted.

NONE

e. The following section (including submittal register) is added.

NONE

f. NOTICE TO OFFERORS: PLEASE MARK OUTSIDE OF ENVELOPE IN WHICH OFFER IS SUBMITTED TO SHOW AMENDMENTS RECEIVED. YOU ARE REQUIRED TO ACKNOWLEDGE RECEIPT OF THIS AMENDMENT ON THE REVERSE SIDE OF STANDARD FORM 1442.

PROPOSAL SCHEDULE DACW85-03-R-0001
AMENDMENT #R0002

NOME NAVIGATION IMPROVEMENTS

NOME, ALASKA

BASE ITEMS

Item No.	Description	Quantity	Unit	Unit Price	Amount
0001.	Mobilization/Demobilization, complete.	1	Job	Lump Sum	$_____
0002.	Dredge/Excavate and Dispose of Material from Entrance Channel and Sediment Traps, complete.	573,400	CY	$_____	$_____
0003.	Dredge/Excavate and Dispose of Material from Causeway Dock Area, complete.	25,900	CY	$_____	$_____
0004.	Excavate and Dispose of Material for Trenched-in Toe for Spur and Main Breakwater, complete.	11,100	CY	$_____	$_____
0005.	Construct "Filter" Layer for the Harbor side slope of East Dredged Material Disposal Area, complete	800	CY	$_____	$_____
0006.	Construct Main Breakwater and Spur Breakwater "A22" Layer, complete.	30,600	CY	$_____	$_____
0007.	Remove Causeway Rock, complete.	17,000	CY	$_____	$_____
0008.	Peel back Causeway Rock for Spur Breakwater Construction, complete.	1	Job	Lump Sum	$_____
0009.	Construct Causeway Abutment Area "A12" Layer, complete.	150	CY	$_____	$_____
0010.	Construct Causeway Abutment Area "A10" Layer, complete.	550	CY	$_____	$_____
0011.	Construct Main Breakwater and Causeway Abutment Area "A8" Layer, complete.	47,800	CY	$_____	$_____
0012.	Construct Main Breakwater "A5" Layer, complete.	23,700	CY	$_____	$_____

Item No.	Description	Quantity	Unit	Unit Price	Amount
0013.	Construct Main Breakwater and Spur Breakwater "B22" Layer, complete.	20,600	CY	$_____	$_____
0014.	Construct Main Breakwater, Spur Breakwater and Causeway Abutment Area "B8" Layer, complete.	28,800	CY	$_____	$_____
0015.	Construct Main Breakwater, Spur Breakwater, and Causeway Abutment Area "C8" Layer, complete.	22,300	CY	$_____	$_____
0016.	Construct Main Breakwater, Spur Breakwater, and Causeway Abutment Area "Filter" Layer, complete.	22,100	CY	$_____	$_____
0017.	Construct Main Breakwater "C2" layer, complete.	29,200	CY	$_____	$_____
0018.	Construct Erosion Mattress Rock layer, complete.	7,100	CY	$_____	$_____
0019.	Construct "D8" Layer for Erosion Mattress, Causeway Abutment Area, complete.	1,500	CY	$_____	$_____
0020.	Construct seawall extension "A8" layer, complete.	6,900	CY	$_____	$_____
0021.	Construct seawall extension "B8" layer, complete.	3,200	CY	$_____	$_____
0022.	Construct seawall extension "C8" layer, complete.	2,200	CY	$_____	$_____
AM #2...					
0023.	Provide Hydrographic and Topographic Surveys for Items 2 thru 22, complete.	1	Job	Lump Sum	$_____ **...AM #2**
0024.	Beach Wild Rye Harvesting and Planting, complete.	0.62	Acre	$_____	$_____
0025.	Demolish/Dispose of Jetties, complete.	1	Job	Lump Sum	$_____
0026.	Construct Navigation Aid Marker Bases, complete.	1	Job	Lump Sum	$_____
0027.	Remove and Dispose of Metal Debris and Partially Sunken Barge, complete.	1	Job	Lump Sum	$_____

Item No.	Description	Quantity	Unit	Unit Price	Amount
0028.	Design Causeway Bridge, complete.	1	Job	Lump Sum	$_____
0029.	Construct Causeway Bridge, complete.	1	Job	Lump Sum	$_____
	Total of Base Items (0001 thru 0029)				$_____
	OPTIONAL ITEMS				
0030.	Option 1 – Dredge, Excavate, Survey and Dispose of Material from Barge Loading Area, complete.	9,100	CY	$_____	$_____
0031.	Option 2 – Dredge, Excavate, Survey and Dispose of Material from Areas A-I, complete.	2,500	CY	$_____	$_____
0032.	Option 3 – Dredge, Excavate, Survey and Dispose of Arsenic Contaminated Material in Areas A-II, A-III, & A-IV complete.	23,200	CY	$_____	$_____
0033.	Option 4 – Dredge, Excavate, Survey and Dispose of Arsenic Contaminated Material from Area A-V, complete.	13,400	CY	$_____	$_____
0034.	Option 5 – Dredge, Excavate, Survey and Dispose of Material from Area A-VI, A-VII & A-VIII, complete.	21,600	CY	$_____	$_____
0035.	Option 6 – Furnish and Install South Sheetpile replacement, complete.	1	JOB	Lump Sum	$_____
0036.	Option 7 – Furnish and Install Northeast Sheetpile replacement, complete.	1	JOB	Lump Sum	$_____
0037.	Option 8 – Construct Barge Ramp, complete.	1	JOB	Lump Sum	$_____
	Total of Optional Items (0030 thru 0037)				$_____
	Total of Base and Optional Items				$_____

EVALUATION OF OFFERS.

1. AWARD: Award will be made in accordance with Section 00120 - EVALUATION FACTORS FOR AWARD.

2. INCOMPLETE OFFERS: Failure to submit an offer on all items in the schedule will result in an incomplete offer and the proposal will be rejected. Lump sum or unit prices must be shown for each item within the schedule.

3. EXTENSIONS: All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the offer.

4. SPECIAL CONDITION: If a modification to a offer based on unit prices is submitted which provides for a lump sum adjustment to the total estimated cost, the application of the lump sum adjustment to each unit price in the proposal schedule must be stated. If it is not stated, the offeror agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the proposal schedule.

5. EVALUATION OF OPTIONS. (JUN 88). The Government will evaluate offers for price purposes by adding the total price of all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

6. Government anticipates award of the optional items as follows:

   a. Optional Items 0001 thru 0005 (CLINS 0030 thru 0034) – within 120 calendar days after award of the basic contract items.

   b. Option 0006 (CLIN 0035) - within two (2) calendars years after award of the basic contract items.

   c. Option 0007 (CLIN 0036) - within three (3) calendars years after award of the basic contract items.

   d. Option 0008 (CLIN 0037) – within 120 calendar days after award of the basic contract.

-- End of Proposal Schedule --

I-N-D-E-X

--End of Special Contract Requirements Index--

SECTION 00800
SPECIAL CONTRACT REQUIREMENTS

SCR-1 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) (FAR 52.211-10):

The Contractor will be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the Notice to Proceed (NTP), (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 1270 calendar days after the date the Contractor receives the Notice to Proceed. The time stated for completion shall include final cleanup of the premises.

SCR-2 NOT USED

SCR-3 LIQUIDATED DAMAGES-CONSTRUCTION (APR 1984) (FAR 52.211-12):

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of $1870.00 for each day of delay.

(b) If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

SCR-4 NOT USED

SCR-5 CONTRACT DRAWINGS AND SPECIFICATIONS (Aug 2000) (DFARS 252.236-7001):

(a) The Government will provide the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall --

(1) Check all the drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general –

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the mis-description of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or mis-described details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Drawing No.	Sheet No.	Title	Rev. No.	Date
		GENERAL		
AM #2...				
None	0	Cover Sheet And Index Sheet	None	22 MAY 2003
6-NOM-94-03-01	1	Location & Vicinity Map	1	12 AUG 2003
		HYDRAULIC & HYDROLOGY		
"	2	Survey Control	NONE	22 MAY 2003
"	3	Site Plan	"	"
"	4	Demolition Plan	1	12 AUG 2003
"	5	Sediment Trap X-Sections & Causeway Site Plan	NONE	22 MAY 2003
"	6	Re-Built Causeway X-Sections & Spur Bw X-Sections	"	"
"	7	Main Breakwater X-Sections	"	"
"	8	Entrance Channel X-Sections & Profile	"	"
"	9	Dredged Material Disposal Area & Seawall Extension Plan	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
6-NOM-94-03-01	10	Dredged Material Disposal Area & Seawall Extension X-Sections	None	22 MAY 2003
"	11	In-Water Dredged Material Disposal Areas	"	"
"	12	Navigation Aid Marker Base Details	"	"
"	13	Optional Barge Loading Ramp Dredging Plan & X-Sections	"	"
"	14	Optional Dredging Plan & X-Sections	"	"
		STRUCTURAL		
"	15	Causeway Bridge Layout	"	"
"	16	Sheet Pile Wall Replacement 1	"	"
"	17	Sheet Pile Wall Replacement 2	"	"
"	18	Sheet Pile Wall Replacement 3	"	"
		EXHIBIT DRAWINGS		
None	19	Causeway As-Built	None	None
"	20	Causeway As-Built	"	"
"	21	Causeway As-Built	"	"
"	22	Causeway As-Built	"	"
"	23	Causeway As-Built	"	"
"	24	Causeway As-Built	"	"
"	25	Causeway As-Built	"	"
"	26	Causeway As-Built	"	"
"	27	Causeway As-Built	"	"
"	28	Causeway As-Built	"	"

Drawing No.	Sheet No.	Title	Rev. No.	Date
None	29	Causeway As-Built	None	22 MAY 2003
	30	Causeway As-Built	"	"
"				
"	31	Jetty As-Built Drawing	"	"
"	32	Fuel Live As-Built Drawing	"	"
				...AM #2

SCR-6 NOT USED

SCR-7 CERTIFICATES OF COMPLIANCE:

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in 3 copies. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

SCR-8 SUBMITTALS (ER 415-1-10, 30 May 1995):

Within 30 days after receipt of Notice to Proceed, the Contractor shall complete and submit to the Contracting Officer, in triplicate, submittal register ENG Form 4288 listing all submittals and dates. In addition to those items listed on ENG Form 4288, the Contractor shall furnish submittals for any deviation from the plans or specifications. The scheduled need dates must be recorded on the document for each item for control purposes. In preparing the document, adequate time (minimum of 30 days) shall be allowed for review and, only when stipulated, approval and possible resubmittal. Scheduling shall be coordinated with the approved progress schedule. The Contractor's Quality Control representative shall review the listing at least every 30 days and take appropriate action to maintain an effective system. Copies of updated or corrected listing shall be submitted to the Contracting Officer at least every 60 days in the quantity specified. Payment will not be made for any material or equipment which does not comply with contract requirements.

Section 01330 includes an ENG Form 4288 listing technical items the Contractor will submit to the Contracting Officer, as indicated in the contract requirements.

SCR-9 NOT USED

SCR-10 NOME PHYSICAL DATA (APR 1984):

Data and information furnished or referred to below are furnished for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

a. Location: Nome is located on the west coast of Alaska at Norton Sound. It is approximately 540 air miles northwest of Anchorage and 250 air miles west of Galena, Alaska.

b. Transportation is limited to water and air facilities.

(1) Water: Commercial transportation is available to the City of Nome. Ocean vessels must anchor off shore, with lighterage service required to shore.

(2) Air: Commercial air service is available to Nome. For information relative to airfield facilities, contact the Airports Division of the Federal Aviation Administration in Anchorage, Alaska.

c. Communications: Telephone communications and services are under the jurisdiction of the site Communications Supervisor. The Contractor shall make all arrangements for required communication service directly with the communications office and will be billed by that office for services received. The Government does not guarantee the adequacy or efficiency of the service or the number of telephones that can be assigned to the Contractor.

d. Weather Data: A Climatological Summary for Nome is attached to the end of this section.

SCR-11 THRU SCR-13 NOT USED

SCR-14 SPECIAL SAFETY REQUIREMENTS:

The Safety and Health Requirements Manual referenced in paragraph Accident Prevention of the Contract Clauses is amended as indicated below. Copies of the manual can be ordered from the Superintendent of Documents, Government Printing Office, Washington DC, phone 202-512-1800, FAX 202-512-2250.

a. Not Used.

b. Paragraph 05.A.01: Add new paragraph 05.A.01 d.

d. Employers shall make reasonable efforts to accommodate employees with religious beliefs that may conflict with PPE requirements. However, when reasonable efforts to accommodate the employee’s religious beliefs do not provide the necessary safe working environment (without PPE), then the employer shall require the employee to use the appropriate PPE or the employee will not be allowed to work in the area where he/she will be exposed to a hazard requiring such protection.

c. Paragraph 16.C: Add new paragraphs 16.C.21 and 16.C.22.

16.C.21. During personnel handling operations, load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied platform is in a stationary working position.

16.C.22. During personnel handling operations, the load hoist drum shall have a system or device on the power train other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited.

d. Use of Type III or Type V Manual or Manual-Auto Inflatable Personal Flotation Devices (PFD's) are not allowed.

SCR-15 NOT USED

SCR-16 LAYOUT OF WORK (APR 1984) (FAR 52.236-17):

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due the Contractor.

SCR-17 QUANTITY SURVEYS (APR 1984) (52.236-16):

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government will make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

SCR-18 AND SCR-19 NOT USED

SCR-20 CONTRACTOR-PREPARED NETWORK ANALYSIS SYSTEM (NAS) (1990 MAR HQ USACE) (ER 1-1-11):

1. The progress chart to be prepared by the Contractor pursuant to the Contract Clause entitled "Schedule for Construction Contracts" shall consist of a network analysis system (NAS) as described below. The scheduling of

construction is the responsibility of the Contractor and Contractor management personnel shall actively participate in development of the network logic diagram so that intended sequences and procedures are clearly understood. The Contractor shall provide the NAS in either Arrow Diagram Method (ADM) or Precedence (PDM) format. The network diagram required at the initial schedule submission shall depict the order and interdependence of activities and the method by which the work is to be accomplished. Conditions of submittal are:

a. The diagram shall show a continuous activity flow from left to right. The activity or event numbers, description, duration, and value shall be shown on the diagram.

b. Dates shall be shown on the diagram for start of the project, any milestones required by the contract, and contract completion.

c. The critical path shall be clearly identified.

d. Submittal, review, procurement, fabrication, delivery, installation, start-up, and testing of special or long lead-time materials and equipment shall be included in the NAS diagram.

e. Government and other agency activities shall be shown. These include but are not limited to: Notice to Proceed, submittals/approvals, inspections, and utility tie in for phasing requirements.

2. A preliminary network diagram, defining the Contractor's planned operations for the first 60 days shall be provided within 10 calendar days after Notice to Proceed is acknowledged. The approved preliminary schedule shall be used for payment not to exceed 60 days after Notice to Proceed.

3. The initial NAS shall be submitted within 40 calendar days after Notice to Proceed. It shall provide (1) a reasonable sequence of activities which represent work through the entire project and (2) a reasonable level of activity detail. The schedule interval shall extend from Notice to Proceed through the contract duration specified in "COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK" to contract completion date. Completion of the last activity in the schedule shall be constrained by the contract completion date such that if the projected finish of the last activity falls after the contract completion, then the float calculation shall reflect negative float. Interim milestone dates specified shall be so constrained also. Progress payments will be withheld until the Contractor submits an approvable schedule.

4. The Contractor shall submit a reproducible and five copies of the network diagram at the initial submittal and three copies of the specified reports at the initial and every monthly update throughout the life of the project. The format of the reports shall contain: Activity Number(s), Activity Description, Original Duration, Remaining Duration, Early Start Date, Late Start Date, Early Finish Date, Late Finish Date, and Total Float. Precedence schedule reports shall include and display preceding and succeeding activities. Cost and/or Earned Value reports shall contain Estimated Earned Value, Percent Complete (based on cost), and Earnings to Date. Report formats are as follows:

a. Logic Report: This report shall list all activities sorted according to activity number. Activities shall be printed in ascending order

of activity number. Any standard report which lists activities including restraints in this manner is acceptable.

b. Criticality Report: This report shall list all activities sorted in ascending order of total float. Activities which have equal values of total float shall be listed in ascending order of Early Starts.

c. Cost or Earned Value Report: This report shall compile the Contractor's total earned value on the project from the Notice to Proceed until the most recent monthly progress meeting based on agreed progress between the Contractor and the Contracting Officer. Provided that the Contractor has submitted a complete schedule update, this report shall serve as the basis for determining Contractor payment. Activities shall be grouped by offer item and then sorted by activity number(s). This report shall subtotal all activities in an offer item and provide an offer item percent complete and then total all offer items to provide a total project percent complete.

d. Other sorted reports or curves may be required as project requirements dictate; however, the total number should be limited.

5. A monthly meeting shall be conducted on site attended by the Contractor's project manager and appropriate Contracting Officer's representatives. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the NAS required to reflect the current status of the project. The Contracting Officer's representative shall approve activity progress, proposed revisions and adjustments, and the use of any optional calculations. The following shall be addressed:

a. The actual start and actual finish dates for all activities in progress or completed as appropriate.

b. The estimated remaining duration for each activity in progress. Progress calculations must be based on remaining duration for each activity and be in an approved calculation mode.

c. The earned value for each activity started but not completed. Payment shall be based on cost of completed activities plus cost to date of in-progress activities.

d. All logic changes pertaining to change orders on which a Notice to Proceed has been issued, Contractor proposed changes in activity sequence or durations, and corrections to schedule logic to avoid out of sequence progress.

6. Following the monthly progress meeting, a complete update of the NAS based on the approved progress, revisions, and adjustments agreed upon at the meeting shall be computed and submitted not later than 10 working days after the meeting. This update shall be subject to approval of the accurate entry of information agreed upon at the meeting. Actual starts and finishes, remaining duration, or percent complete shall not be automatically updated by default dates contained in the many CPM scheduling software systems, except that early start for an activity which could start prior to the update but has no actual start shall default to the data date of the update. Activities which have posted progress without predecessor activities being completed shall be allowed only on a case by case approval of the Contracting Officer's

representative who may require logic changes to correct all such out of sequence progress.

7. A narrative report shall be provided with each update of the NAS. This report shall include (1) a description of activities and progress along the four most critical paths, (2) a description of current and anticipated problem areas or delaying factors and their impact, and (3) an explanation of the corrective actions taken. Only modifications that have been authorized and approved by the Contracting Officer shall be included in the schedule submission. The narrative report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes. This report, along with the progress update above, shall provide the basis for the Contractor's progress payment request and the Contractor shall be entitled to progress payments determined from the currently approved NAS update. If the Contractor fails or refuses to furnish the information and NAS data which, in the sole judgment of the Contracting Officer, is necessary for verifying the Contractor's progress, the Contractor shall be deemed not to have provided a progress payment estimate and progress payment will not be made.

8. The Contractor shall prepare proposed NAS revisions for all contract changes and submit them to the Contracting Officer's representative. These shall include a narrative listing the affected activities, a statement of the expected overall impact of the change proposed, and a sub-network of the affected diagram area. When agreed upon by the Contracting Officer's representative, the change logic and durations shall be utilized in analysis of the overall project and the appropriate impact of the change determined for inclusion of time impact for a modification. When Notice to Proceed with changes must be issued prior to settlement of price and/or time, the Contractor shall submit the same revisions for concurrence by the Contracting Officer's representative prior to inclusion in the NAS. If the Contractor fails to submit or include such revisions within 30 days of the Notice to Proceed, the Contracting Officer's representative will furnish to the Contractor suggested logic and/or revised durations to be entered in the NAS until the Contractor submits revisions, and final changes and impact have been negotiated. If the Contractor has any objections to the data furnished by the Contracting Officer, it shall advise the Contracting Officer promptly of its objections and written counterplan; however, it shall continue to use the revisions by the Contracting Officer until such time as alternate data is approved. If the Contractor fails to submit its alternative plan within 20 days after the date such suggested revisions were furnished by the Contracting Officer, the Contractor will be deemed to have concurred with the Contracting Officer's suggested logic/duration time changes. The changes then will be the basis for equitable adjustment for performance of the work.

9. In the event the Contractor requests an extension of the contract completion date for any other contractual reason, it shall furnish such justification as the Contracting Officer may deem necessary for a determination of the Contractor's right to an extension of time under the provisions of the contract. In such event, the schedule revisions must clearly display that the Contractor has used in full all available float time for the work involved with the request. Actual delays that are found to be caused by the Contractor's own actions or lack of action, and which result in the extension of the projected contract completion date shall not be a cause for extension of the contract completion date. The Contracting Officer may find cause to extend the contract completion date under the contract in the absence of a request

by the Contractor when, in the Contracting Officer's judgment, it is equitable.

10. Float available in the schedule at any time shall not be considered as for exclusive use by either the Contractor or the Government. Extensions of time for performance of work required under Contract Clauses entitled "CHANGES", "DIFFERING SITE CONDITIONS", "DEFAULT (FIXED-PRICE CONSTRUCTION)", or "SUSPENSION OF WORK" will be granted only to the extent that equitable time adjustments for affected activities exceed the total float along their paths.

11. A data disc shall be provided as required by Special Contract Requirement Clause SCR-34, "Scheduling System Data Exchange Format." The automated scheduling system utilized by the Contractor shall be capable of providing all requirements of this specification. As many data disk(s) as required in the "Standard Data Exchange Format" shall be provided with the Initial schedule, Monthly Updates, and all NAS revisions or requests for revision. Refer to Special Contract Requirement Clause SCR-34 for a complete description of this format.

SCR-21 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) (FAR 52.236-1):

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty (20) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

SCR-22 NOT USED

SCR-23 OBSTRUCTION OF NAVIGABLE WATERWAYS (DEC 1991) (DFARS 252.236-7002):

(a) The Contractor shall--

(1) Promptly recover and remove all material, plant, machinery, or appliance which the Contractor loses, dumps, throws overboard, sinks, or misplaces, and which, in the opinion of the Contracting Officer, may be dangerous to or obstruct navigation;

(2) Give immediate notice, with description and locations of any such obstructions, to the Contracting Officer; and

(3) When required by the Contracting Officer, mark or buoy such obstructions until the same are removed.

(b) The Contracting Officer may--

(1) Remove the obstructions by contract or otherwise should the Contractor refuse, neglect, or delay compliance with paragraph (a) of this clause; and

(2) Deduct the cost of removal from any monies due or to become due the Contractor; or

(3) Recover the cost of removal under the Contractor's bond.

(c) The Contractor's liability for the removal of a vessel wrecked or sunk without fault or negligence is limited to that provided in Sections 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et. Seq.).

SCR-24 SIGNAL LIGHTS:

The Contractor shall display signal lights and conduct its operations in accordance with the General Regulations of the Department of the Army and of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed; vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable channels, as set forth in Commandant U.S. Coast Guard Instruction M16672.2, Navigation Rules: International-inland (COMDTINST M16672.2) of 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable.

SCR-25 COMMUNICATION SECURITY:

All communications with DOD organizations are subject to COMSEC review. Contractor personnel shall be aware that telecommunications networks are continually subject to intercept by unfriendly intelligence organizations. The DOD has authorized the military departments to conduct COMSEC monitoring and recording of telephone calls originating from or terminating at DOD organizations. Therefore, civilian Contractor personnel are advised that any time they place a call to or receive a call from Alaska District offices or Resident Engineer offices located on military installations, they are subject to COMSEC procedures. The Contractor will assume the responsibility for ensuring wide and frequent dissemination of the above information to all employees dealing with official DOD information.

SCR-26 AND SCR-27 NOT USED

SCR-28 PAYMENT FOR MOBILIZATION AND PREPARATORY WORK (DEC 1991) (DFARS 252.236-7003):

(a) The Government will make payment to the Contractor under the procedures in this clause for mobilization and preparatory work under item no. 0001.

(b) Payments will be made for actual payments by the Contractor on work preparatory to commencing actual work on the construction items for which payment is provided under the terms of this contract, as follows--

(1) For construction plant and equipment exceeding $25,000 in value per unit (as appraised by the Contracting Officer at the work site) acquired for the execution of the work;

(2) Transportation of all plant and equipment to the site;

(3) Material purchased for the prosecution of the contract, but not to be incorporated in the work;

(4) Construction of access roads or railroads, camps, trailer courts, mess halls, dormitories or living quarters, field headquarters facilities, and construction yards;

(5) Personal services; and

(6) Hire of plant.

(c) Requests for payment must include--

(1) A certified account of the Contractor's actual expenditures;

(2) Supporting documentation, including receipted bills or certified copies of payrolls and freight bills; and

(3) The Contractor's certificate--

(i) Showing that it has acquired the construction plant, equipment, and material free from all encumbrances;

(ii) Agreeing that the construction plant, equipment, and material will not be removed from the site without written permission of the Contracting Officer; and

(iii) Agreeing that structures and facilities prepared or erected for the prosecution of the contract work will be maintained and not dismantled prior to the completion and acceptance of the entire work, without the written permission of the Contracting Officer.

(d) Upon receiving a request for payment, the Government will make payment, less any prescribed retained percentage, if--

(1) The Contracting Officer finds the--

(i) Construction plant, material, equipment, and the mobilization and preparatory work performed are suitable and necessary to the efficient prosecution of the contract; and

(ii) Preparatory work has been done with proper economy and efficiency.

(2) Payments for construction plant, equipment, material, and structures and facilities prepared or erected for prosecution of the contract work do not exceed--

(i) The Contractor's cost for the work performed less the estimated value upon completion of the contract; and

(ii) 100 percent of the cost to the Contractor of any items having no appreciable salvage value; and

(iii) 75 percent of the cost to the Contractor of items which do have an appreciable salvage value.

(e) (1) Payments will continue to be made for item no. 0001, and all payments will be deducted from the contract price for this item, until the total

deductions reduce this item to zero, after which no further payments will be made under this item.

(2) If the total of payments so made does not reduce this item to zero, the balance will be paid to the Contractor in the final payment under the contract.

(3) The retained percentage will be paid in accordance with the Payments Under Fixed-Price Construction to Contractor clause of this contract.

(f) The Contracting Officer shall determine the value and suitability of the construction plant, equipment, materials, structures and facilities. The Contracting Officer's determinations are not subject to appeal.

SCR-29 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (1999 JUNE HQ USACE)(EFARS 52.231-5000):

(a) This statement shall become operative only for negotiated contracts where cost or pricing data is requested, and for modifications to sealed bid or negotiated contracts where cost or pricing is requested. This clause does not apply to terminations. See 52.231-5001, Basis for settlement of proposals, and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a Contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the Contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region IX. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply. (Individual copies of the regional schedules are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Any schedule can be ordered by telephoning (202) 512-1800. The cost is $26.00 each. Vol. 9 is stock no. 008-022-00292-8.)

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the Contracting Officer shall request the Contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

SCR-30 THRU SCR-33 NOT USED

SCR-34 SCHEDULING SYSTEM DATA EXCHANGE FORMAT (ER 1-1-11, MAR 1990):

PART 1 - GENERAL

1. Application of this provision: The data exchange format provides a platform for exchanging scheduling and planning data between various software systems. This section shall be used in conjunction with Special Contract Requirement Clause SCR-20, entitled "CONTRACTOR-PREPARED NETWORK ANALYSIS SYSTEM." The Data Exchange Format shall allow project management systems to share information with other programs. Scheduling information shall be transferred from the Contractor's project management system to the Government as described in this section.

2. Electronic Data Exchange File Required for All Schedule Submissions:

a. The Contractor shall provide schedule data in the Data Exchange Format for each Preliminary, Initial, Monthly NAS Update, and requests for time extensions or change proposals. The Contractor's failure to provide schedule data in the exact format described herein shall result in disapproval of the entire schedule submission.

b. The entire set of schedule data shall be transferred at every exchange of scheduling data. Thus, for updates to existing projects, as the data exchange file shall contain all activities that have not started or are already complete as well as those activities in progress.

3. Data Transfer Responsibility: The Contractor shall be responsible for Electronic Data Exchange File data that may have been lost or destroyed during transit between the Contractor and the Contracting Officer. If Electronic Data Exchange File data is damaged during transit, then the Contractor shall provide the Contracting Officer with a new Electronic Data Exchange File within two (2) working days of notification by the Contracting Officer.

4. Data Consistency Responsibility: The Contractor shall be responsible for the consistency between the Electronic Data Exchange File and printed reports which accompany schedule submissions. If Electronic Data Exchange File data for a schedule submission differs, in any way, from the printed schedule reports or standard activity coding, then the Contracting Officer will disapprove the entire schedule submission. The Contractor shall provide the Contracting Officer with a completely revised, and consistent, schedule submission with 24 hours of notification of inconsistency by the Contracting Officer.

5. Creating the Electronic Data Exchange Files: The Contractor shall have the option of creating the Electronic Data Exchange File by one of the three following methods:

a. Commercially Available Software: The Contractor will be required to secure software that meets this requirement. Many commercially available scheduling systems support the standard data exchange format.

b. Interface Program: Under this option, the Contractor shall produce its own data translation software. This software shall take the information provided by the Contractor's scheduling system and reformat the data into the Data Exchange Format.

c. Manual Methods: Under this option, the Contractor shall manually reformat its scheduling system report files or create all necessary data by manually entering all data into the Date Exchange Format.

PART 2 - GENERAL DATA EXCHANGE FILE REQUIREMENTS

6. File Transfer Medium: All required data shall be submitted on 3.5" diskette (s), formatted to hold 1.44 MB of data, under an MS-DOS operating system (Version 5.0 or higher) compatible with that of the Resident Office administering this contract. Higher data densities and other operating systems may be approved by the Contracting Officer if compatible with the Government's computing capability.

7. File Type and Format: The data file shall consist of a 132 character, fixed format, "ASCII" file. Text shall be left-justified and numbers shall be right-justified in each field. Data records must conform, exactly, to the sequence, column position, maximum length, mandatory values, and field definitions described below to comply with this standard data exchange format. Unless specifically stated, all numbers shall be whole numbers. All data columns shall be separated by a single blank column.

8. Electronic Data Exchange File Name: The Contractor shall insure that each file has a name related to either the schedule data date, project name, or contract number. No two Electronic Data Exchange Files shall have the same name throughout the life of this contract. The Contractor shall submit its file naming convention to the Contracting Officer for approval. In the event that the Contractor's naming convention is disapproved, the Contracting Officer shall direct the Contractor to provide files under a unique file naming convention.

9. Disc Label: The Contractor shall affix a permanent exterior label to each diskette submitted. The label shall contain the type of schedule (Preliminary, Initial, Update, or Change), full project number, project name, project location, data date, name and telephone number of the Contractor's scheduler, and the MS-DOS version used to format the diskette.

10. Standard Activity Coding Dictionary: The Contractor shall submit, with the initial schedule submission, a consistent coding scheme that shall be used throughout the project for the Activity Codes shown in Paragraph 12.e of this clause. The coding scheme submitted shall demonstrate that each code shall only represent one type of information through the duration of the contract. Incomplete coding of activities or an incomplete coding scheme shall be sufficient for disapproval of the schedule.

PART 3 - DATA FORMAT

11. Data Exchange File Format Organization: The Data Exchange File Format shall consist of the following records provided in the exact sequence shown below:

Paragraph Reference	Record Description	Remarks
12.a	Volume Record	First Record on Every Data Disk
12.b	Project ID Record	Second Record
12.c	Calendar Record(s)	Minimum of One Record Required
12.d	Holiday Record(s)	Optional Record
12.e	Activity Record(s)	Mandatory Record
12.f	Precedence Record(s)	Mandatory for Precedence Method
12.g	Unit Cost Record(s)	Optional for Unit Cost Projects

12.h	Progress Record(s)	Mandatory for Updates
12.i	File End Record	Last Record of Data File

12. Record Descriptions:

a. Volume Record: The Volume Record shall be used to control the transfer of data that may not fit on a single disk. The first record in every disk used to store the data exchange file shall contain the Volume Record. The Volume Record shall sequentially identify the number of the data transfer disk(s). The Volume Record shall have the following format:

Description	Column Position	Max. Len.	Reqd. Value	Type	Just.
RECORD IDENTIFIER	1-	4	VOLM	Fixed	
DISK NUMBER	6- 7	2	-	Number	Right

(1) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "VOLM".

(2) The DISK NUMBER field shall identify the number of data disk used to store the data exchange information. If all data may be contained on a single disk, this field shall contain the value of "1". If more disks are required, then the second disk shall contain the value of "2", the third disk shall be designated with a "3", and so on. Identification of the last data disk shall not be accomplished with the Volume Record. Identification of the last data disk is accomplished in the PROJECT END RECORD (see Paragraph 12.I).

b. Project ID Record: The Project ID Record is the second record of the file and shall contain project information in the following format:

Description	Column Position	Max Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	PROJ	Fixed	
DATA DATE	6- 12	7	-	ddmmmyy	See (2)
PROJECT IDENTIFIER	14- 17	4	-	Alpha.	Left
PROJECT NAME	19- 66	48	-	Alpha.	Left
CONTRACTOR NAME	68-103	36	-	Alpha.	Left
ARROW OR PRECEDENCE	105	1	A,P	Fixed	
CONTRACT NUMBER	107-112	6	-	Alpha.	Left
PROJECT START	114-120	7	-	ddmmmyy	Filled
PROJECT END	122-128	7	-	ddmmmyy	Filled

(1) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "PROJ". This record shall contain the general project information and indicates which scheduling method shall be used.

(2) The DATA DATE is the date of the schedule calculation. The abbreviation "ddmmmyy" refers to a date format that shall translate a date into two numbers for the day, three letters for the month, and two numbers for the year. For example, March 1, 1999 shall be translated into 01Mar99. This same convention for date formats shall be used throughout the entire data format. To insure that dates are translated consistently, the following abbreviations shall be used for the three character month code:

Abbreviation	Month

JAN	January
FEB	February
MAR	March
APR	April
MAY	May
JUN	June
JUL	July
AUG	August
SEP	September
OCT	October
NOV	November
DEC	December

(3) The PROJECT IDENTIFIER is a maximum of four character abbreviation for the schedule. These four characters shall be used to uniquely identify the project and specific update as agreed upon by the Contractor and Contracting Officer. When utilizing scheduling software these four characters shall be used to select the project. Software manufacturers shall verify that data importing programs do not automatically overwrite other schedules with the same PROJECT IDENTIFIER.

(4) The PROJECT NAME field shall contain the name and location of the project edited to fit the space provided. The data appearing here shall appear on scheduling software reports. The abbreviation “Alpha.”, used throughout Paragraph 12, RECORD DESCRIPTIONS, refers to an “Alphanumeric” field value.

(5) The CONTRACTOR NAME field shall contain the Construction Contractor’s name edited to fit the space provided.

(6) The ARROW OR PRECEDENCE field shall indicate which method shall be used for calculation of the schedule. The value “A” shall signify the Arrow Diagramming Technique. The value “P” shall signify the Precedence Diagramming Technique. The ACTIVITY IDENTIFICATION field of the Activity Record shall be interpreted differently depending on the value of this field (see Paragraph 12.e.2). The Precedence Record shall be required if the value of this field is “P” (see Paragraph 12.f).

(7) The CONTRACT NUMBER field shall directly identify the contract for the project. For example, a complete Government construction contract number, “DACA85-97-C-0001”, shall be entered into this field as “970001”.

(8) The PROJECT START shall contain the date that the project will start or has started. On Government construction projects, this date is the date that the construction Contractor acknowledges the Notice to Proceed.

(9) The PROJECT END shall contain the date that the contract must complete on or prior to. On Government construction projects, this date is the PROJECT START plus the contract period, typically expressed in a specific number of calendar days.

c. Calendar Record: The Calendar Record(s) shall follow the Project Identifier Record in every data file. A minimum of one Calendar Record shall be required for all data exchange activity files. The format for the Calendar Record shall be as follows:

Description	Column Position	Max Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	CLDR	Fixed	
CALENDAR CODE	6- 6	1	-	Alpha.	Filled
WORKDAYS	8- 14	7	SMTWTFS	See (3)	
CALENDAR DESCRIPTION	16- 45	30	-	Alpha.	Left

(1) The RECORD IDENTIFIER shall always begin with "CLDR" to identify it as a Calendar Record. Each Calendar Record used shall have this identification in the first four columns.

(2) The CALENDAR CODE shall be used in the activity records to signify that this calendar is associated with the activity.

(3) The WORKDAYS field shall contain the work-week pattern selected with "Y", for Yes, and "N" for No. The first character shall be Sunday and the last character Saturday. An example of typical five (5) day work-week would be NYYYYYN. A seven (7) day work-week would be YYYYYYY.

(4) The CALENDAR DESCRIPTION shall be used to briefly explain the calendar used.

d. Holiday Record: Optional Holiday Record(s) shall follow the Calendar Record(s). The Holiday Record shall be used to designate specific non-work days for a specific Calendar. More than one Holiday Record may be used for a particular calendar. If used, the following format shall be followed:

Description	Column Position	Max Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	HOLI	Fixed	
CALENDAR CODE	6- 6	1	-	Alpha	Filled
HOLIDAY DATE	8- 14	7	-	ddmmmyy	Filled
HOLIDAY DATE	16- 22	7	-	ddmmmyy	Filled
HOLIDAY DATE	24- 30	7	-	ddmmmyy	Filled
HOLIDAY DATE	32- 38	7	-	ddmmmyy	Filled
HOLIDAY DATE	40- 46	7	-	ddmmmyy	Filled
HOLIDAY DATE	48- 54	7	-	ddmmmyy	Filled
HOLIDAY DATE	56- 62	7	-	ddmmmyy	Filled
HOLIDAY DATE	64 70	7	-	ddmmmyy	Filled
HOLIDAY DATE	72- 78	7	-	ddmmmyy	Filled
HOLIDAY DATE	80- 86	7	-	ddmmmyy	Filled
HOLIDAY DATE	88- 94	7	-	ddmmmyy	Filled
HOLIDAY DATE	96-112	7	-	ddmmmyy	Filled
HOLIDAY DATE	114-120	7	-	ddmmmyy	Filled
HOLIDAY DATE	122-128	7	-	ddmmmyy	Filled

(1) The RECORD IDENTIFIER shall always begin with "HOLI" and shall signify an Optional Holiday Calendar is to be used.

(2) The CALENDAR CODE indicates which work-week calendar the holidays shall be applied to. More than one HOLI record may be used for a given CALENDAR CODE.

(3) The HOLIDAY DATE shall be used for each date to be designated as non-work day.

e. Activity Records: Activity Records shall follow any Holiday Record(s). If there are no Holiday Record(s), then the Activity Records shall follow the Calendar Record(s). There shall be one Activity Record for every activity in the network. Each activity shall have one record in the following format:

Description	Column Position	Max Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	ACTV	Fixed	
ACTIVITY IDENTIFICATION	6- 15	10	-	See (2)	
ACTIVITY DESCRIPTION	17- 46	30	-	Alpha.	Left
ACTIVITY DURATION	48- 50	3	-	Interger	Right
ACTIVITY COST	52- 60	9	-	Interger	Right
CONSTRAINT DATE	62- 68	7	-	ddmmmyy	Filled
CONSTRAINT TYPE	70- 71	2	-	See (7)	
CALENDAR CODE	73- 73	1	-	Alpha.	Filled
HAMMOCK CODE	75- 75	1	Y, blank	Fixed	
WORKERS PER DAY	77- 79	3	-	Interger	Right
RESPONSIBILITY CODE	81- 84	4	-	Alpha.	Left
WORK AREA CODE	86- 89	4	-	Alpha.	Left
MOD OR CLAIM NUMBER	91- 94	4	-	Alpha.	Left
OFFER ITEM	96- 99	4	-	Alpha.	Left
UCI CODE	101-105	5	-	See (15)	
USER DEFINED 1	107-110	4	-	See (16)	
USER DEFINED 2	112-115	4	-	See (16)	
USER DEFINED 3	117-120	4	-	See (16)	
USER DEFINED 4	122-125	4	-	See (16)	
USER DEFINED 5	127-130	4	-	See (16)	

(1) The RECORD IDENTIFIER for each activity description record must begin with the four character “ACTV” code. This field shall be used for both the Arrow Diagram Method (ADM) and Precedence Diagram Method (PDM) (see Paragraph 12.b.6).

(2) The ACTIVITY IDENTIFICATION consists of coding that differs, depending on whether the ADM or PDM method was selected in the Project Record (see Paragraph 12.b.6). If the ADM method was selected, then the field shall be interpreted as two right-justified fields of five (5) integers each. If the PDM method was selected, the field shall be interpreted as one (1) right-justified field of ten (10) integers. The maximum activity number allowed under this arrangement is 99999 for ADM and 9999999999 for the PDM method.

(3) The ACTIVITY DESCRIPTION shall be a maximum of 30 characters. Descriptions must be limited to the space provided.

(4) The ACTIVITY DURATION contains the estimated duration for the activity on the schedule. The duration shall be based upon the work-week designated by the activity’s related calendar (referenced in Paragraph 12.e.8).

(5) The ACTIVITY COST contains the estimated earned value of the work to be accomplished in the activity.

(6) The CONSTRAINT DATE field shall be used to identify a date that the scheduling system may use to modify float calculations. If there is a date in

this field, then there must be a valid entry in the CONSTRAINT TYPE field. The CONSTRAINT DATE shall be the same as, or later than, the PROJECT START DATE. The CONSTRAINT DATE shall be the same as, or earlier than, the PROJECT END DATE.

(7) The CONSTRAINT TYPE field shall be used to identify the way that the scheduling system shall use the CONSTRAINT DATE to modify schedule float calculations. If there is a value in this field, then there must be a valid entry in the CONSTRAINT DATE field. Below is the minimum list of entries for the CONSTRAINT TYPE. Other types may be available from specific software manufacturers.

Code	Definition
ES	The CONSTRAINT DATE shall replace an activity's early start date, if the early start date is prior to the CONSTRAINT DATE.
LF	The CONSTRAINT DATE shall replace an activity's late finish date, if the late finish date is after the CONSTRAINT DATE.

(8) The CALENDAR CODE, as previously explained, relates this activity to an appropriate work-week calendar. The ACTIVITY DURATION must be based on the valid work-week referenced by this CALENDAR CODE field (see Paragraph 12.e.4).

(9) The HAMMOCK CODE indicates that a particular activity does not have its own independent duration, but takes its start dates from the start date of the preceding activity (or node) and takes its finish dates from the finish dates of its succeeding activity (or node). If the value of the HAMMOCK ACTIVITY is "Y", then the activity is a HAMMOCK ACTIVITY.

(10) The WORKERS PER DAY is an optional field that shall be specified at the discretion of the Contracting Officer. This field shall contain the average number of workers expected to work on the activity each day the activity is in progress. The total duration times the average number of workers per day shall equal the Contractor's estimate of the total man days of work required to perform the activity.

(11) The RESPONSIBILITY CODE shall identify the subcontractor or major trade involved with completing the work for the activity.

(12) The WORK AREA CODE shall identify the location of the activity within the project.

(13) The MOD OR CLAIM NUMBER code is an optional field that shall be specified at the discretion of the Contracting Officer. This code shall uniquely identify activities that are changed on a construction contract modification, or activities that justify any claimed time extensions.

(14) The OFFER ITEM field is an optional field that shall be specified at the discretion of the Contracting Officer. This field shall designate the offer item number associated with the activity.

(15) The Construction Specification Institute Masterformat CSI CODE is an optional field that shall be specified at the discretion of the Contracting Officer. The CSI CODE shall contain the value of the code corresponding to the work to be accomplished in this activity.

(16) USER DEFINED fields are optional and not required to meet the data exchange standard. They are provided to allow for a fixed expansion of capabilities for individual very large projects that may require additional fields.

f. Precedence Record: The Precedence Record(s) shall follow the Activity Records if a Precedence Type Schedule (PDM) is identified in the ARROW OR PRECEDENCE field of the Project Record (see Paragraph 12.b.6). The Precedence Record has the following format:

Description	Column Position	Max Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	PRED	Fixed	
ACTIVITY IDENTIFICATION	6- 15	10	-	Integer	See (2)
PRECEDING ACTIVITY	17- 26	10	-	Integer	
PREDECESSOR TYPE	28- 29	2	-	See (4)	
LAG DURATION	31- 34	4	-	Integer	Right

(1) The RECORD IDENTIFIER shall begin with the four character "PRED" in the first four columns of the record.

(2) The ACTIVITY IDENTIFICATION identifies the activity whose predecessor shall be specified in this record. Refer to the Activity Record for further explanation on this field (see Paragraph 12.e.2).

(3) The PREDECESSOR ACTIVITY number is the number of an activity that precedes the activity noted in the ACTIVITY IDENTIFICATION field.

(4) The PREDECESSOR TYPE field indicates the type of relationship that exists between the chosen pair of activities. The PREDECESSOR TYPE field must, as a minimum, contain one of the codes listed below. Other types of activity relations may be supported from specific software vendors.

Code	Definition
SS	Start-to-Start relationship
FF	Finish-to-Finish relationship
FS	Finish-to-Start relationship

(5) The LAG DURATION field contains the number of days delay between the preceding and current activity.

g. Unit Cost Record: The Unit Cost Record shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Unit Cost Record shall follow any Activity Records. The fields for this record shall take the following format:

Description	Column Position	Max Len.	Value	Reqd. Type	Just
RECORD IDENTIFIER	1- 4	4	UNIT	Fixed	
ACTIVITY IDENTIFICATION	6- 15	10	-	Integer	See (2)
TOTAL QTY	17- 27	11	-	Floating	Part
COST PER UNIT	29- 39	11	-	Floating	Part
QTY TO DATE	41- 51	11	-	Floating	Part
UNIT OF MEASURE	53- 55	3	-	Alpha.	

(1) The RECORD IDENTIFIER shall be identified with the four character "UNIT" placed in the first four columns of the record.

(2) The ACTIVITY IDENTIFICATION for each activity shall match the format described in the activity record (see Paragraph 12.e.2).

(3) The TOTAL QTY is the total amount of this type of material to be used in this activity. This number consists of eight digits, one decimal point, and two more digits. An example of a number in this format is "11111111.11". If decimal places are not needed, this field shall still contain a ".00" in Columns 25, 26, and 27.

(4) The COST PER UNIT is the cost, in dollars and cents, for each unit to be used in this activity. This number consists of eight digits, one decimal point, and two more digits. An example of a number in this format is "11111111.11". If decimal places are not needed, this field shall still contain a ".00" in Columns 37, 38, and 39.

(5) The QTY TO DATE is the quantity of material installed in this activity up to the data date. This number consists of eight digits, one decimal point, and two more digits. An example of a number in this format is "11111111.11". If decimal places are not needed, this field shall still contain a ".00" in Columns 49, 50, and 51.

(6) The UNIT OF MEASURE is an abbreviation that may be used to describe the units being measured for this activity.

h. Progress Record: Progress Record(s) shall follow all Unit Cost Record(s). If there are no Unit Cost Record(s), then the Progress Record(s) shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Progress Record shall follow any Activity Records. One record shall exist for each activity in-progress or completed. The fields for this Record shall take the following format:

Description	Column Position	Maxi. Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 4	4	PROG	Fixed	
ACTIVITY IDENTIFICATION	6- 15	10	-	Integer	See (2)
ACTUAL START DATE	17- 23	7	-	ddmmmyy	Full
ACTUAL FINISH DATE	25- 31	7	-	ddmmmyy	Full
REMAINING DURATION	33- 35	3	-	Integer	Right
COST TO DATE	37- 45	9	-	Integer	Right

(1) The RECORD IDENTIFIER shall begin with the four character "PROG" in the first four columns of the record.

(2) The ACTIVITY IDENTIFICATION for each activity for which progress has been posted, shall match the format described in the Activity Record (see Paragraph 12.e.2).

(3) An ACTUAL START DATE is required for all in-progress activities. The ACTUAL START DATE shall be the same as, or later than, the PROJECT START date contained in the Project Record (see Paragraph 12.b.8). The ACTUAL START DATE shall also be the same as, or prior to, the DATA DATE contained in the Project Record (see Paragraph 12.b.2).

(4) An ACTUAL FINISH DATE is required for all completed activities. If the REMAINING DURATION of an activity is zero, then there must be an ACTUAL FINISH DATE. The ACTUAL FINISH DATE must be the same as, or later than the PROJECT START date contained in the Project Record (see Paragraph 12.b.8). The ACTUAL FINISH DATE must also be the same as, or prior to the DATA DATE contained in the Project Record (see Paragraph 12.b.2).

(5) A REMAINING DURATION is required for all in-progress activities. Activities completed, based on time, shall have a zero (0) REMAINING DURATION.

(6) Cost progress is contained in the field COST TO DATE. If there is an ACTUAL START DATE, then there must also be some value for COST TO DATE. The COST TO DATE is not tied to REMAINING DURATION. For example, if the REMAINING DURATION is "0", the COST TO DATE may only be 95 percent of the ACTIVITY COST. This difference may be used to reflect 5 percent retainage for punch list items.

i. File End Record:

(1) The File End Record shall be used to identify that the data file is completed. This record shall be the last record of the entire data file. The File End Record shall have the following format:

Description	Column Position	Maxi. Len.	Reqd. Value	Type	Just
RECORD IDENTIFIER	1- 3	3	END	Fixed	

(2) The RECORD IDENTIFIER for the File End Record shall be "END". No data contained in the data exchange file that occurs after this record is found shall be used.

SCR-35 RESERVED

SCR-36 THRU SCR-37 NOT USED

SCR-38 YEAR 2000 COMPLIANCE (OCT 1997) (FAR 39.106):

In accordance with FAR 39.106, the Contractor shall ensure that with respect to any design, construction, goods, or services under this contract as well as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically, the Contractor shall:

(1) Perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Year 2000 compliance requirement.

(2) Indicate whether each component is currently Year 2000 compliant or requires an upgrade for compliance prior to Government acceptance.

SCR-39 NOT USED

SCR-40 KEY PERSONNEL:

During the performance of this contract, no substitutions shall be made for individuals specifically identified in the Contractor's accepted proposal to perform key functions in the work, unless determined necessary by the Contracting Officer and approved in writing. Proposed substitutes shall have qualifications comparable to those of the persons being replaced.

SCR-41 DESIGN-BUILD CONTRACT - ORDER OF PRECEDENCE

(a) The contract includes the standard contract clauses and schedules current at the time of the contract award. It entails (1) the solicitation in its entirety, including all drawings, cuts, illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.

(b) In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:

1) Betterments: Any portions of the accepted proposal which both conform to and exceed the provisions of the solicitation.

2) The provisions of the solicitation. (See also Contract Clause: SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.)

3) All other provisions of the accepted proposal.

4) Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc.. These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.

SCR-42 PROPOSED BETTERMENTS

(a) The minimum requirements of the contract are identified in the Request for Proposal. All betterments offered in the proposal become a requirement of the awarded contract.

(b) "Betterment" is defined as any component or system which exceeds the minimum requirements stated in the Request for Proposal. This includes all proposed betterments listed in accordance with the "Proposal Submission Requirements" of the Solicitation, and all Government identified betterments.

(c) "Government identified betterments" include the betterments identified on the "List of Accepted Project Betterments" prepared by the Proposal Evaluation Board and made part of the contract by alteration, and all other betterments identified in the accepted Proposal after award.

SCR-43 SEQUENCE OF DESIGN-CONSTRUCTION

(a) After receipt of Notice to Proceed (NTP), the Contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government review of each submission. No construction may be started until the Government has reviewed the Final Design submission and determined it satisfactory for purposes of beginning construction, except that site clearing, etc., may be initiated with the permission of the Contracting Officer. The Contracting Officer will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the Contracting Officer, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

(b) If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

SCR-44 NOT USED

SCR-45 SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, U.S. ARMY CORPS OF ENGINEERS:

EM 385-1-1 and its changes are available at http://www.hq.usace.army.mil (at the HQ homepage, select Safety and Occupational Health).

The Contractor shall be responsible for complying with the current edition and all changes posted on the web (see web address above) as of the effective date of this solicitation.

SCR-46 THRU SCR-99 NOT USED

SCR-100 CONTINUING CONTRACTS (1995 MAR HQ USACE) (EFARS 52.232-5001):

(a) This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-Federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.

(b) The sum of $10,000.00 has been reserved for this contract and is available for payments to the Contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds together with funds provided by one or more non-Federal project sponsors will be reserved for this contract.

(c) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the Contractor to a price adjustment under the terms of this contract except as specifically provided in Paragraphs (f) and (i) below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid

for one year due solely to a failure to reserve sufficient additional funds therefore.

(d) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The Contracting Officer will promptly notify the Contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(e) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the Contractor shall give written notice to the Contracting Officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(f) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The Contractor shall be entitled to simple interest on any payment that the Contracting Officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(g) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the Contractor to any price adjustment under the "Suspension of Work" clause or in any other manner under this contract.

(h) Any equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(i) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the Contractor, by written notice delivered to the Contracting Officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be considered a termination for the convenience of the Government.

(j) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the Contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the Contractor, to reduce said reservation by the amount of such excess.

SCR-101 THRU SCR-103 NOT USED

SCR-104 CONTINUITY OF WORK:

No payment will be made for work done in any area designated by the Contracting Officer until the full depth required under the contract is secured in the whole or such area, unless prevented by ledge rock, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured except by decision of the Contracting Officer. Should any such nonadjacent area be excavated to full depth during the operations carried on under the contract, payment for all work therein may be deferred until the required depth has been made in the area intervening. The Contractor may be required to suspend dredging at any time when for any reason the gauges or ranges cannot be seen or properly followed.

SCR-105 INSPECTION:

The Contractor shall be responsible for the maintenance of the gauges, ranges, location marks and limit marks in proper order and position; but the presence of the inspector shall not relieve the Contractor of responsibility for the proper execution of the work in accordance with the specifications. The Contractor will be required:

(a) To furnish, on the request of the Contracting Officer or any inspector, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the work. However, the Contractor will not be required to furnish such facilities for the surveys, prescribed in the clause entitled "Final Examination and Acceptance."

(b) To furnish, on the request of the Contracting Officer or any inspector, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and to and from the dumping grounds.

Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amounts due or to become due the Contractor.

SCR-106 FINAL EXAMINATION AND ACCEPTANCE

(a) As soon as practicable after the completion of the entire work or any section thereof (if the work is divided into sections) as in the opinion of the Contracting Officer will not be subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the Government by sounding or by sweeping, or both, as determined by the Contracting Officer. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination the Contractor will be required to remove same by dragging the bottom or by dredging at the contract rate for dredging, but if the bottom is soft and the shoal areas are small and form no material obstruction to navigation, the removal of such shoal may be waived by the discretion of the Contracting Officer. The Contractor or its authorized representative will be notified when soundings and/or sweepings are to be made, and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding or sweeping

operations by the Government over an area be necessary by reason of work for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operations will be charged against the Contractor at the rate of actual costs in which the Government plant is engaged in sounding or sweeping and/or is enroute to or from the site or held at or near the said site for such operation.

(b) Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

SCR-107 SHOALING:

If, before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished channel, because of the natural lowering of the side slopes, redredging at contract price, within the limit of available funds, may be done if agreeable to both the Contractor and the Contracting Officer.

SCR-108 NOT USED

SCR-109 USE OF EXPLOSIVES:

When blasting is found to be necessary for removal of rock or other material the Contractor shall take all necessary precautions for the protection of individuals and property exposed to its operations.

(1) The amount of explosives permitted aboard the drill boat at any one time will be subject to the approval of the U.S. Coast Guard.

(2) Provision shall be made for jettisoning explosives aboard the drill boat in emergencies.

(3) The Contractor shall make necessary arrangements, as may be required by the Contracting Officer, to prevent damage to any vessel, moored or underway, building or structure and preserve the crew or occupants thereof from exposure to injury as a result of the Contractor’s operations.

SCR-110 VARIATIONS IN ESTIMATED QUANTITIES—DREDGING:

(a) Where the quantity of a pay item in this contract is an estimated quantity and where the actual quantity of material within the required dredging prism varies more than fifteen percent (15%) above or below the stated estimated quantity within the required dredging prism, an equitable adjustment in the contract unit price will be made upon demand of either party. The equitable adjustment will be based upon any increase or decrease in costs due solely to the variations above one-hundred fifteen percent (115%) or below eighty-five percent (85%) of the estimated quantity within the required dredging prism. Any equitable adjustment in the contract unit price will also apply to that part of the actual quantity of allowable overdepth material above one-hundred fifteen percent (115%) or below eighty-five percent (85%) of the estimated quantity.

(b) If the quantity variation is such as to cause an increase in the

time necessary for completion, the Contracting Officer shall, upon receipt of a written request for an extension of time within ten (10) days from the beginning of such delay, or within such further period of time which may be granted by the Contracting Officer prior to the date of final settlement of the contract, ascertain the facts and make such adjustment for extending the completion date as in his judgement the findings justify.

SCR-111 NOT USED

SCR-112 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999) (FAR 52.222-23):

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for Minority Participation	Goals for Female Participation
8.7 (Anchorage, AK)	6.9 (Alaska)
15.1 (Locations outside city of Anchorage)	

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on

(1) its implementation of the Equal Opportunity clause,

(2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and

(3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the:

(1) Name, address, and telephone number of the subcontractor;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is Alaska.

SCR-113 ENVIRONMENTAL LITIGATION:

(a) If the performance of all or part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the "Suspension of Work" clause of this contract. The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

(b) The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

ATTACHMENTS: CLIMATOLOGICAL SUMMARY
WAVE ENVIRONMENT SUMMARY

MEANS AND EXTREMES FOR PERIOD OF RECORD

CLIMATOLOGICAL SUMMARY

NOME AP (Period of record exceeds 25 years)

Temperature		Mean Annual	25.6° F
		Highest Recorded	86° F July 1936
		Lowest Recorded	-47° F Jan 1919
		Maximum Freezing Index	5245° Days (1955-56)
		Maximum Thawing Index	2210° Days (1953)
Precipitation		Mean Annual	16.4"
		Mean Annual Snowfall	55.1" (1940-80)
		Maximum Monthly	7.82" August 1951
		Maximum Monthly Mean	3.42" August
		Maximum Rainfall During 24 hr Period	2.99" August 1976
		Maximum Snowfall During 24 hr Period	9.0" February 1975
		Maximum Monthly Snowfall	25.9: November 1970
Wind		Mean Hourly Speed	10.8 mph
		Prevailing Direction	N
		Maximum Velocity	75 mph January 1950
		Direction Maximum Velocity	E (Period of Record thru June 1957)
Annual Mean Number of Days	Sunrise to Sunset	Clear	91
		Partly Cloudy	64
		Cloudy	210
		Precipitation 0.01 inch or more	126
		Snow, Sleet, or Hail 1.0 inch or more	17
		Heavy Fog	24
		Thunder Storms	Less than 1 per year
	Max Temp	≥ 70°	7
		≤ 32°	175
	Min Temp	≤ 32°	243
		≤ Zero	86

NPA Form 3
AUG 1958

Wave Environment Summary

The wave analysis used to design this project was based on wind information from 1957 to 1996. Wave buoy data taken from 1987 to 1996 were used to check the analysis. The wave environment in any given year can vary considerably from the values provided and the data shows only the basic trends. The waves that will actually be seen at the project site may be greater than or less than the predicted values. The tables below show the percent occurrence of wave heights and period by month.

Percent Occurrence of Wave Heights

	0 -1.5 ft	1.5 - 3 ft	3 - 5 ft	5 - 6 ft	6 – 8 ft	8 – 9.5 ft	9.5 – 11.5 ft	11.5 – 13 ft	13 – 14 ft	14 – 16.5 ft
May	38.3	39.7	15.9	4.4	1.1	0.4				
Jun	34.8	51.8	11.9	1.5						
Jul	30.3	47.8	17.0	3.0	1.0	0.4	0.4			
Aug	16.4	39.3	26.7	10.4	4.1	1.8	1.2	0.1		
Sep	15.3	44.6	25.7	9.0	3.2	1.8	0.4			
Oct	10.0	33.6	25.3	12.5	7.0	6.3	2.3	1.4	1.3	0.2
Nov	10.25	23.3	22.3	14.9	13.4	9.1	3.6	2.6	0.5	
Avg.	22.2	40.0	20.7	8.0	4.2	2.8	1.1	0.6	0.2	

Percent Occurrence of Wave Periods

	4 sec	5 sec	6 sec	7 sec	8 sec	9 sec	10 sec	11 sec	12 sec	13 sec	14 sec	15 sec or <
May	24.1	20.9	15.0	10.3	13.8	8.8	5.4	1.6				
Jun	26.0	24.9	18.9	9.1	12.3	5.9	1.6	1.1				
Jul	18.4	25.0	30.3	9.3	7.0	7.4	1.7	0.8				
Aug	11.3	18.8	25.6	17.7	12.1	9.0	4.4	1.2	0.1			
Sep	22.9	17.2	21.1	11.1	9.6	10.0	5.5	1.8	0.4	0.5		
Oct	15.1	17.0	18.4	10.9	11.1	10.0	10.0	3.6	1.7	0.6	0.6	0.8
Nov	10.0	11.7	9.5	9.4	13.5	9.8	11.0	9.4	6.1	5.7	3.2	0.5
Avg.	18.2	19.4	19.8	11.1	11.3	8.7	5.6	2.8	1.2	1.0	0.5	0.2

--END OF SPECIAL CONTRACT REQUIREMENTS--

PROJECT TABLE OF CONTENTS

-- End of Project Table of Contents --

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02220

DEMOLITION

SECTION 02220

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ENGINEERING MANUALS (EM)

EM 385-1-1 (1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

1.2 GENERAL REQUIREMENTS

The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. In the interest of occupational safety and health, the work shall be performed in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections. In the interest of conservation, salvage shall be pursued to the maximum extent possible; salvaged items and materials shall be disposed of as specified.

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Work Plan; GA.

The procedures proposed for the accomplishment of the work. The procedures shall provide for safe conduct of the work, including procedures and methods to provide necessary supports, lateral bracing and shoring when required, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations in accordance with EM 385-1-1.

Blasting Plan; GA.

Submit plan detailing Contractor's blasting program for material removal and plan for protection of surrounding structures, equipment, vessels and wildlife.

1.4 DUST CONTROL

The amount of dust resulting from demolition shall be controlled to prevent the spread of dust to occupied portions of the construction site and to avoid creation of a nuisance in the surrounding area. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution.

1.5 PROTECTION

1.5.1 Protection of Personnel

During the demolition work, the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.5.2 Protection of Structures

Columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, of lateral support until demolished, unless directed otherwise by the Contracting Officer. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.5.3 Protection of Existing Property

Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The Contractor shall take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government; any damaged items shall be repaired or replaced as approved by the Contracting Officer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

1.5.4 Environmental Protection

The work shall comply with the requirements of SECTION 01410 ENVIRONMENTAL PROTECTION.

1.6 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.7 USE OF EXPLOSIVES

Use of explosives will be permitted. Blasting shall be performed only by experienced persons. Conduct operations in strict accordance with applicable regulations. Protect exposed structures from the effects of the blast in accordance with the Blasting plan.

The following requirements shall apply if the Contractor uses blasting in performance of the work. A Blasting Plan shall be submitted to the Alaska District Corps of Engineers for distribution to the U.S. Fish and Wildlife Service and the Alaska Department of Fish and Game to review stipulations agreed to in the environmental assessment and finding of no significant impact for the project. Prior to each blast, the area shall be patrolled by boat or on the shore and devices/techniques authorized by the USFWS and the NMFS shall be used to move birds and marine mammals away from the project area. Shock-wave impulse strengths shall be kept less than 10 psi/millisecond when measured at the mid-water column depth, 330 feet from the blast site. Each blast shall be closely monitored, the hydrostatic pressure measured and recorded, and the charges adjusted as necessary to ensure that allowable hydrostatic over-pressures are not exceeded. Instantateous pressure changes greater than 2.7 psi in the swim bladder of a fish shall be prohibited. All dead fish and wildlife within 1,300 feet of the blast shall be removed to prevent attracting foraging fish and wildlife to the area. No inwater blasting shall occur from May 15 to August 31.

Minimum requirements for the Blasting Planwill be:

1. specification of the location and size of the charges, and the method of placement.

2. A map of the anticipated blast-generated overpressure gradient.

3. Schedule that indicates when blasting will occur.

4. Plan for meeting the specified requirements.

5. Blaster's qualifications (6) equipment to be used.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 EXISTING STRUCTURES

AM #2... Existing structures indicated shall be removed as shown on the drawings. Existing structures include concrete, steel piles, steel sheet piles, timber piles, rock, and remnants of an old timber pile structure (pile depth unknown) immediately west of the west jetty**....AM #2**

3.2 DISPOSITION OF MATERIAL

Title to material and equipment to be demolished is vested in the Contractor upon receipt of notice to proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

3.2.1 Salvageable Items and Material

Contractor shall salvage items and material to the maximum extent possible.

3.2.1.1 Material Salvaged for the Contractor

Material salvaged for the Contractor shall be stored as approved by the Contracting Officer and shall be removed from Government property before completion of the contract. Material salvaged for the Contractor shall not be sold on the site.

3.2.2 Unsalvageable Material

Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of in the disposal area indicated on the drawings.

3.3 BLASTING

3.3.1 General

Blasting may be necessary and should be anticipated in all demolition work.The blasting to be performed by the Contractor shall be accomplished in accordance with the following:

3.3.2 Use of Explosives

All blasting operations, including the storage and handling of explosives and blasting agents, shall be performed in accordance with the applicable provisions of these specifications; the Safety Manual (EM 385-1-1, Section 29) referenced in the Contract clauses; and all other pertinent Federal, State and local regulations. The Contracting Officer shall be kept informed of the status of all damage or injury claims. All necessary permits for blasting shall be the responsibility of the Contractor.

The explosive storage facilities shall be located outside the project boundaries. The Contractor shall submit his explosives storage plan along with the type of magazine or explosive storage facility to be used on the job site. The Contractor shall append to the plan copies of the Federal, State, or local regulations, licences and permits. The Contractor is required to conform to all requirements of local, State, and Federal agencies applicable to explosive storage and shall conform to the record keeping, placarding, safe distances, and all other requirements concerning storage. Applicable magazine permits shall be obtained and displayed as required by local, State, or Federal law.

3.3.3 Product Specifications

All blasting caps and all other explosives used on this project shall be in new condition and of a serviceable age. Product that does not meet manufacturers specifications shall not be used on the project. No blasting products shall be allowed on the job if date codes are missing. When in the opinion of the Contracting Officer, any blasting product is either of excessive age or in what appears to be a deteriorated condition, all work shall cease until the product's age or quality can be determined or until it is removed from the job site.

3.3.4 Personnel

3.3.4.1 Blasting Foreman

The Contractor shall retain the services of a blasting foreman whose experience and qualifications are acceptable to the Contracting Officer. The blasting foreman shall be a expert in underwater rock blasting operations and have no less than 10 years experience in this field. The Blasting Foreman's resume shall be submitted at the time of the pre-construction conference. Government approval of the Contractor's blasting foreman will be based on the minimum requirements listed below.

a. Successful completion of a reputable blasting course or courses which covered all of the following: safety, explosive types, methods and techniques, applications, blast theory, blast design, stray current detection, and vibration control.

b. Thorough knowledge of blasting safety, including requirements of the Safety Manual (EM 385-1-1).

c. Thorough knowledge of industry design, drilling, loading, blasting, and monitoring practices.

d. Thorough knowledge of detection methods for stray currents.

e. Thorough knowledge of methods for monitoring, detection, and control of blast vibration in ground, air, and water.

3.3.4.2 Blasting Consultant

The Contractor shall retain the services of a specialized Blasting Consultant whose experience and qualifications are acceptable to the Contracting Officer. The consultant shall be an expert in the field of drilling and underwater blasting who derives his primary source of income from providing specialized blasting and/or blasting consulting services. The consultant shall not be an employee of the Contractor, explosives manufacturer, or explosives distributor. The Blasting Consultant's resume shall be submitted at the time of the pre-construction conference. This person shall have a minimum of 10 years experience with blast design and significant involvement as a Blasting Specialist for a minimum of 5 major rock excavation projects involving underwater blasting. A list of these projects containing a description of the projects, details of the blast plans, and modifications made during the projects shall be submitted with the Blasting Consultant's resume. The list shall also contain the names and telephone numbers of project owners with sufficient knowledge of the projects to verify the submitted information. The Blasting Consultant shall be approved by the Contracting Officer prior to the beginning of any drilling or blasting work, and then be available on the job site at other times as required. All blasting plan submittals must be signed by the Blasting Consultant and the Consultant on Protection of Marine Organisms.

3.3.4.3 Consultant on Protection of Marine Organisms

The Contractor shall retain the full time services of an independent specialized consultant for protection of marine organisms for this project. The consultant shall have expertise in the effects of underwater blasting on marine organisms. The consultant shall be approved by the Contracting Officer. The consultant shall be qualified to perform duties as indicated in paragraph Ground Vibration Control and

Monitoring.

3.3.4.4 Blasters

Blasters shall have no less than 3 years of continuous experience in preparation and loading of explosives.

3.3.5 Comprehensive Blasting Plan

Not less than thirty days prior to commencing drilling and blasting operations, or at any time the Contractor proposes to change the drilling and blasting methods, the Contractor shall submit a Blasting Plan to the Contracting Officer for review. This plan will be provided to the Alaska District Corps of Engineers for distribution to the U.S. Fish and Wildlife Service and the Alaska Department of Fish and Game to review stipulations agreed to in the environmental assessment and findings of no significant impact for the project. The Blasting Plan shall contain the full details of the drilling and blasting patterns and controls the Contractor proposes to use. The plan also shall address means of assuring that no damage to the breakwaters shall be incurred as a result of blasting. All blasting plan submittals must be signed by the Blasting Consultant. The Blasting Plan shall contain the following minimum information:

a. Limits of cut or lift and total cubic yards for each blast.

b . Plan and section views of proposed drill pattern including free face, burden, blast hole spacing, blast hole diameters, blast hole angles, lift height, and sub-drill depth.

c. Loading diagram showing type and amount of explosives, powder factor, primers, initiators and location and depth of stemming.

d. Initiators sequence of blast holes including delay times, delay system and weight of explosives per delay.

e. Manufacturer's data sheets for all explosives, primers, and initiators to be employed.

f. A plan describing all warnings and signals that will be utilized for the blasting operations.

g. If required, describe how a bubble curtain will be installed and operated.

h. Delineate how the public will be notified and directed away from loading and blasting operations.

i. Delineate how inhabited and uninhabited structures within the danger area for each blast will be protected. Describe any evacuation plans for people residing in these structures within the danger area for each blast.

j. Describe measures to reduce blasting effects on fish and marine mammals such as reducing the effective charge and hydrostatic pressure shock waves, over drilling holes to insure proper fracturing of the substrate, and timing of the blasting program to avoid periods of high fish and mammal presence. Recommendations on timing and other stipulations have been provided herein from the

State of Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and National Marine Fisheries Service.

k. Conduct and execute a test blast which would contribute to the validation of the blast design. This test blast will help ensure that the imposed limits for the peak particle velocity and the impulse strength presented in paragraph 3.4.13.2 During Blasting are not exceeded.

Review of the drilling, blasting and excavation procedures by the Contracting Officer shall not relieve the Contractor of his responsibility for the accuracy and adequacy of the plan for obtaining adequate breakage, using proper detonation procedures and following proper safety procedures prior to and after blasting.

3.3.6 Blasting Reports

No later than 14 days after the start of any blast, a blasting report shall be submitted. A sample form is enclosed as Appendix D. The report shall be signed by Contractor's Blasting Foreman, Blasting Consultant and the Consultant on Protection of Marine Organisms. Additional information shall be supplied on a Contractor-designed form which shall be attached to the blasting form. The Contractor-designed form shall be submitted with the blasting plan for approval. The report shall include the following information on each blast:

a. A plan map showing the harbor basin.

b. Location of the blast area outlined on the plan map and defined by stationing, offset, and elevation of each corner.

c. A tabulation of all the blasting parameter values, i.e., total cubic yards, weight of explosives per delay, burden, spacing, hole depth, sub-drilled length, stemmed length, etc.

3.3.7 Blasting Logs

The Contractor shall prepare and submit a blast log signed by the Blasting Foreman, Blasting Consultant and the Consultant on Protection of Marine Organisms for each blast. The blast log shall be submitted on the day of the blast and document the following:

a. Location of blast in relation to the project stationing and elevation.

b. Any changes made from the initial blasting plan.

c. Date and times of loading and detonation of blast.

d. Name of person in responsible charge of loading and firing.

e. Shock wave data from monitoring equipment.

f. Any observed effects of the blast on fish and wildlife. Fish and animal carcasses shall be denoted in the log.

g. Comments regarding damage to existing facilities, adjacent

property, or completed work, misfires, fly rock occurrences, unusual results or unusual effects.

The blasting logs are for quality control and record keeping purposes. Review of the blast log by the Contracting Officer shall not relieve the Contractor of his responsibility for the accuracy and adequacy of the blasting log.

3.3.8 Objectives

3.3.8.1 Excavation Walls

If in the opinion of the Contracting Officer, the methods of excavation required herein or adopted by the Contractor are unsatisfactory in that they do not produce a uniform result within the neatlines specified, or cause excessive damage to the existing ground, the Contractor shall adopt revised methods, by drilling, blasting, and excavating short sections until a technique is developed that will produce the acceptable results.

3.3.8.2 Excavation Bottom - Overdrilling

Overdrilling shall consist of drilling and shooting below the excavation prism so as to achieve complete breakage without leaving material to be demolished above the bottom grade line. The Contractor shall be responsible for drilling holes to sufficient depth below the bottom of the prism to fracture or break all the material inside the prism. No additional payment will be made for overdrilling or for material removed below the jetties indicated on the drawings.

3.3.8.3 Blasthole Spacing Near Loaded Holes

Blastholes drilled near loaded holes shall be laid out as per the following minimum standards (EM 385-1-1, Section 29.J.07) unless otherwise requested by the Contractor in writing and approved by the Contracting Officer. Requests shall be signed by the Contractor's Blasting Consultant. The spacing shall meet either:

a. When drilling near or adjacent to a loaded hole, drilling shall be limited to vertical holes only and drilling shall be separated from loaded holes by depth of water plus the depth of the loaded hole.

b. If a solid casing or drill mast - vertically plumbed with inclinometer - is extended and firmly seated , the distance between a loaded hole and one being drilled shall be 1/3 the depth of the hole, with a minimum of eight feet between the loaded hole and the one being drilled. Drilling shall be halted to check alignment with an inclinometer every four feet of hole depth.

3.3.8.4 Waves and Tides

The Contractor shall be responsible for providing drilling, loading, and blasting equipment capable of performing in wave and tide conditions of the project area. The Contractor shall be responsible for accounting for wave and tide conditions in construction sequencing and scheduling.

3.3.9 Safety Procedures

3.3.9.1 Blasting Safety Plan

Prior to bringing explosives on site, the Contractor shall develop a blasting safety plan. As a minimum, this plan shall be accepted by the Contracting Officer and include the following:

a. List the names, qualifications, and responsibilities of personnel involved with explosives.

b. Delineate the Contractor's requirements for handling transportation, and storage of explosives; loading procedures; safety signals; danger area clearance; methods for securing the site; vibration and damage control; post-blast inspection and misfire procedures; and post-blast ventilation requirements.

3.3.9.2 Vessel Traffic Control Plan for Blasting Operations

Numerous vessels travel in the vicinity of the project area, including but not limited to barges, processors, fishing boats and small craft. The Contractor shall be responsible for maintaining local and public notices of blasting schedules and for providing notice and warning to large vessels that may be in the area. Once the loading of explosives into blast holes has begun the Contractor shall keep all vessels more than 150 feet away from the loaded holes in the underwater blasting area. No vessel shall be within 1,500 feet of the blast area when firing a shot. Prior to bringing explosives on site, the Contractor shall develop a vessel traffic control plan. As a minimum, this plan shall be in accordance with State and Federal regulations, be approved by the Contracting Officer and include the following:

a. Methods of vessel traffic scheduling and rerouting.

b. Vessel traffic control strategy from the time that the first drill hole is loaded in a set of drill holes until the shot is performed and traffic control measures that will be initiated.

c. The means of public notice for blasting operations and schedules.

3.3.9.3 Warnings and Signals

Warnings and signals shall be in compliance with the Safety Manual (EM 385-1-1, Section 29) unless otherwise approved by the Contracting Officer.

3.3.9.4 Electrical Hazards

If electric detonators are to be used, the Contractor shall establish a system to minimize electrical hazards. Electrical hazards can be broken down into six categories; current leakage, lightning, static electricity, stray currents, galvanic action, and radio frequency energy. Electrical blasting shall not be conducted when electric hazards greater than 0.05 amperes are present. An instrument shall be provided capable of detecting lightning or electrical storms within five miles of the blasting area. Warning units of this capability are manufactured by Thomas Instruments, Inc., of Spofford, New Hampshire 03462, Telephone Number (800) 343-0833, web address http://www.vibration.com/sensor.htm. This instrument shall be monitored by an instrumentation specialist and/or blaster. The Contracting

Officer shall be notified immediately when the instrument gives warning. Immediate action shall be taken to guard the loaded area, any other endangered area, and the powder magazine area from encroachment. Each blasting area shall be certified to be free of electrical hazards in excess of 0.05 amperes before loading of blast holes.

3.3.9.5 Public Notice

The Contractor shall provide public notice of the blasting schedule. As a minimum, this shall include posting the blasting schedule at the public dock, the existing harbor, the Post Office, and at the City Hall. Notice also shall be announced regularly on marine radio, VHF channel 16 (Coast Guard Emergency and Hailing) or other appropriate channel. When blasting within 1,000 feet of an existing structure, the Contractor shall notify the owner or occupant of the structure 24 hours in advance of the time the blast will occur. The city of Nome shall be given 7 days notice prior to the start of blasting so that vessels can be removed from the blast zone.

3.3.9.6 Coordination with Federal Aviation Administration (FAA)

A 1,000-foot above ground level Controlled Firing Area (CFA) restriction shall be in effect for the blast area. The following shall be accomplished:

a. The Contractor shall contact the FAA 30 days prior to blasting to coordinate his blasting operations with FAA requirements. The Contractor shall also contact Nome Airport and Anchorage Flight Service Station 24 hours prior to blasting to notify the FAA of his blasting schedule or any changes in the blasting schedule.

b. The Contractor shall provide personnel to act as aircraft watch attendants as required to provide continuous observation of the airspace in all directions from the blast zone. Aircraft watch attendants shall be in continuous contact with the person in responsible charge for firing.

c. For the purpose of protecting aircraft, no flyrock shall be allowed higher than 500 feet above ground level.

3.3.10 Pre-Blast Condition Survey

The Contractor shall be responsible for any blast damage resulting from blasting. The Contractor shall conduct a pre-blast survey of any nearby buildings, structures, or utilities which may potentially be at risk from blasting damage. The survey method used shall be acceptable to the Contractor's insurance company. The pre-blast survey records shall be made available to Contracting Officer for review.

3.3.11 Ground Vibration Control and Monitoring

This section pertains to the control and monitoring of ground vibrations; the control and monitoring of vibrations in the water column is specified in paragraph 3.4.13.2 During Blasting. When blasting near buildings, structures, or utilities which may be subject to damage from blast induced ground vibrations, the ground vibrations shall be controlled by the use of properly designed delay sequences and allowable charge weights per delay. Allowable charge weights per delay shall be based on vibration levels which shall not cause damage. The allowable

charge weights per delay shall be established by carrying out trial blasts and measuring vibration levels.

Whenever vibration to adjacent structures is possible, the Contractor shall monitor each blast with an approved seismograph located, as approved, between the blast area and the closest structure subject to blast damage. The seismograph used shall be capable of recording particle velocity for three mutually perpendicular components of vibration in the range generally found with blasting.

Peak particle velocity of each component shall not be allowed to exceed the safe limits of the nearest structure subject to vibration damage. The Contractor shall retain the services of a qualified vibration specialist to establish the safe vibration limits. The vibration specialist shall also interpret the seismograph records to insure that the seismograph data shall be effectively utilized in the control of the blasting operations with respect to the existing structures. A qualified vibration specialist is defined as a person with technical training in blasting vibration monitoring and control. The specialist must have had direct responsibility for establishing vibration limitations on at least 5 projects. This specification does not preclude the possibility that the Blasting Consultant, if qualified, could also function as the vibration specialist. The vibration specialist used shall be subject to the Contracting Officers approval.

Data recorded for each shot shall be furnished to the Contracting Officer prior to the next blast. In addition to the pertinent blasting log data (paragraph Comprehensive Blasting Plan), additional data shall include the following:

a. Identification of instrument used.

b. Name of qualified observer and interpreter person(s) designated by the vibration specialist as qualified.

c. Distance and direction of recording station from blast area.

d. Type of ground at recording station and material on which the instrument is sitting.

e. Maximum particle velocity in each component.

f. A dated and signed copy of seismograph readings record.

3.3.12 Air or Silt Barrier

3.3.12.1 Air Barrier

A bubble curtain may be used as an option to diminish the water pressure wave from submerged blasts in order to protect fish and marine mammals. If used, the bubble curtain shall consist of a wall of air bubbles in the water, at a safe perimeter around the submerged blasting zone, and shall be produced by delivering compressed air to the channel bottom and releasing the air through appropriately placed pipe manifolds. If the performance standards in paragraph 3.4.13.2 During Blasting for impulse strengths and peak particle velocity can be attained through explosive charge sizing, decking, stemming, or detonation delays, then bubble curtains would not be needed.

3.3.12.2 Air Barrier Deployment

The Contractor shall use an adequate number of air curtain manifolds to completely surround the blasting zone, and supply sufficient protection to not exceed the peak particle velocity and shock wave impulse strength restrictions presented in paragraph 3.4.13.2 During Blasting. The blasting parameters for each shot shall be used to determine the required placement of the air curtain manifolds or around the shot. Bubble curtain manifolds shall be no farther than 75 feet from the blast and continuous, following the bottom contour along the water-bottom interface. The Contractor shall inspect and repair the manifolds after each shot.

3.3.12.3 Silt Barrier

Silt barriers may be used to separate fish and marine mammals from the blast area during blasting.

3.3.13 Wildlife Monitoring

Reference the following publication on wildlife monitoring: "The Environmental Effects of Underwater Explosions with Methods to Mitigate Impacts," by Thomas M. Keevin, Ph.D. and Gregory L. Hempen, Ph.D., P.E., R.G. of the U.S. Army Corps of Engineers, St. Louis District, 1222 Spruce Street, St. Louis, Missouri 63103-2833, August 1997. This publication has been available at the following web site:

https://www.denix.osd.mil/denix/Public/ES-Programs/Conservation/WaterX/waterl.html

The applicable chapter is chapter eight. It can also be accessed under the Natural Resources or Cultural resources links under Conservation in the pathname given above and appears in a Legacy Publications index list.

3.3.13.1 Before Blasting

Prior to mobilization, the Contractor shall submit a blast monitoring plan for the Contracting Officer's approval. The blast monitoring plan shall provide as a minimum:

a. Description of the instrumentation to be employed for measuring shock waves.

b. The type of readings each instrument records and how they will be presented.

c. The locations to be monitored.

d. The instruments depth in water.

e. The qualification of the operator.

Immediately prior to any blasting, the Contractor shall conduct a visual inspection of the work area to determine if birds or marine mammals, including but not limited to sea lions, whales, porpoises, dolphins, sea otters, and seals are present. This inspection shall be conducted by monitoring personnel e.g., a biologist knowledgeable about identification of wildlife. If such animals are detected within the blast zone, the Contractor shall notify the Contracting Officer's on-site representative and await permission to blast before proceeding.

No blasting shall occur until all wildlife are safely out of the blast zone. The wildlife protection blast zone can be defined as a region including all points within 1/4 mile of any hole drilled for current blasting. Hazing is allowed to disperse wildlife except marine mammals.

3.3.13.2 During Blasting

Blasting shall be closely monitored to document hydrostatic pressure wave impulse strengths created by the blasting. At no time shall peak particle velocity exceed 2.0 inches per second and the shock wave impulse strength exceed 2.7 pounds per square inch per millisecond at mid-water column depth 150 yards from the blasting area. The peak pressure from every blast shall be recorded by seismograph or equivalent measuring device. If injuries to birds or marine mammals remaining in the area are observed, blasting shall stop and the Contracting Officer's on-site representative shall be informed. Based on data collected during the blast, the blasting plan shall be modified to minimize further injury. The revised plan shall be re-submitted to the Contracting Officer for review. The Contractor shall deploy instrumentation for each shot. Readings shall be recorded for each shot and immediately furnished to the Contracting Officer's on-site representative.

3.3.13.3 Timing of Blast

Blasting shall not occur during the period May 15 through August 31.

3.3.13.4 After a Blast

After each blast, the environmental monitor shall make a visual survey of the area and remove any dead fish or animal carcasses with the intent of preventing the attraction of foraging fish or wildlife in the area. Any carcasses shall be documented in the blasting log and disposed in an upland site in accordance with any state or federal regulations. Mortalities shall be reported to United States Fish and Wildlife and National Marine Fisheries Service personnel.

3.4 CLEAN UP

Debris shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

3.5 ATTACHMENTS

Appendix 02220A: Jetty Photographs
AM #2... Appendix 02220B: Nome Causeway Specification**...AM #2**

NOME PORT FACILITY
CITY OF NOME, ALASKA
PROJ. NO. K-20000

SECTION 02220
EARTHWORK

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Core material for causeway.

B. Filter material.

C. Filling to attain indicated grades.

D. Rough and finish grading of the site.

1.02 RELATED WORK

A. Section 01575: Haul Routes

B. Section 01050: Field Engineering

C. Section 02270: Armor Rock

D. Section 02363: Concrete Filled Steel Pipe Piles

E. Section 02368: Rolled Steel Section Piles

F. Section 02519: Gravel Surfacing

G. Section 02810: Electrical Power Transmission and Distribution Lines

H. Section 15370: POL Systems

1.03 REFERENCE STANDARDS

A. American Society of Testing Materials (ASTM):

C88-76	Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate.
C131-76	Test for Resistance to Abrasion of Small Size Coarse Aggregate by Use of the Los Angeles Machine.
D1556-64	Density of Soil in Place by the Sand-Cone Method.
D1557-78	Test for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.59 kg) Rammer and 18 Inch (457 mm) Drop.

B. State of Alaska Department of Transportation and Public Facilities:
1. Standard Specifications for Highway Construction.

1.04 REGULATORY REQUIREMENTS

A. Make all necessary arrangements with borrow pit property owners for right-of way, easements and the like.

B. Obtain use permits from authorities having jurisdiction.

C. Make payment for any royalties, surface disturbance fees, and the like.

SECTION 02220
EARTHWORK

PART 2 - PRODUCTS

2.01 FILL MATERIAL

A. Borrow Sources:

1. Fill for the project may be obtained from any source provided the material meets specifications.
2. Samples of gravel and aggregate material from borrow pits in the area have been tested. A summary of the results is available in the document "Site Investigation Studies for the Port of Nome, Alaska, Vol. 2 - Gravel and Aggregates." Bidders and the Contractor are cautioned that the material in the borrow sites investigated may vary in quality and quantity from the results of the tests taken on the referenced samples. Any reference to a particular borrow source in the referenced documents in no way constitutes an approval or recommendation of that source.

B. Class D, E, and F fill shall consist of material complying with the following requirements:

1. Gradation:

Sieve Size	Percent Passing by Weight Class D	Sieve Size	Percent Passing by Weight Class E	Class F
6"	100	6"	100	100
3"	70-100	3"	80-100	80-100
1-1/2"	45-75	3/4"	40-100	40-100
3/4"	25-55	No. 4	10-50	10-50
1/4"	0-15	No. 10	6-30	6-30
No. 4	0- 5	No. 40	3-15	3-15
		No. 200	0-5	0-3

If the natural gradation does not conform to the above gradations, it shall be corrected by screening and or crushing.

2. Class D and F fill material shall have a percent of wear of not more than 50 at 500 revolutions, as determined by ASTM C131.
3. Class D and F fill material shall not show evidence of disintegration, nor show a total loss greater than 12 percent when subjected to five cycles of the sodium accelerated soundness test using ASTM C88.
4. Class F fill material shall have a California Bearing Ratio (CBR) of not less than 35 when tested at 100% of modified dry density and optimum moisture content after 4 days soaking.

2.02 SAND BEDDING

A. Clean natural river or beach sand; free from silt, clay loam, friable or soluble materials, and organic matter; graded within the following limits:

Sieve Size	Percent Passing
No. 4	100
No. 14	10 to 100
No. 50	5 to 90
No. 100	4 to 30
No. 200	0 to 5

PART 3 - EXECUTION

3.01 TIMING RESTRICTIONS ON FILL PLACEMENT

A. Earthwork and armor rock fill materials shall not be placed in the causeway embankment, from the causeway breach shoreward to the MHHW line during May 20 to July 1 or as additionally restricted by the Corps of Engineers permit. A fish passageway shall be functional during this time period.

3.02 PREPARATION OF SUBGRADE

A. Do not place, spread, or roll fill material during unfavorable weather conditions. Provide berms or channels to prevent flooding of subgrade. Promptly remove all water which collects in depressions.

3.03 FILL PLACEMENT AND COMPACTION

A. Class D Filter Material:

1. The 95 percent of maximum density compaction requirement will not apply to Class D material placed on sideslopes.
2. Frozen material shall not be used.

B. Class E Fill for Causeway:

1. For construction of underwater portions of causeway, Class E fill material may be end-dumped in water. Fill shall be placed to the sideslopes shown on the drawings and may be end-dumped to an elevation which is 3 feet above Mean Lower Low Water.
2. Placement of fill shall be coordinated with placement of armor stone for slope protection, as specified in Section 02270, in order that the prescribed side slopes of the fill material can be maintained.
3. Frozen fill material shall not be used.

C. Class F Fill for Causeway:

1. Class F material shall be spread in layers not exceeding eight inches in uncompacted thickness. Each layer of fill shall be compacted to the following criteria:
   a. All but the upper 2 feet of fill shall be compacted to 95 percent of ASTM 1557, Method D, maximum density.
   b. Upper 2 feet of fill shall be compacted to 100 percent of ASTM 1557, Method D, maximum density.
2. Frozen material shall not be used and work shall not proceed during freezing weather except upon approval of, and under the regulations prescribed by the Engineer.

D. Class F Fill for Onshore Areas:

1. Where the depth of fill is 8 feet or greater, the bottom 2 feet of the fill may be placed in a single lift without the 95 percent maximum density requirement. Earthwork and hauling equipment shall provide compaction for this 2 feet layer of material. The placing and spreading of the fill shall be carried out in such a manner as to prevent disturbance of the existing soil cover. Utilization of frozen fill material shall not be permitted.
2. Excluding the 2 foot exception above, placement of the remainder of the fill material shall be carried out in layers not exceeding eight inches of uncompacted thickness. Each layer of fill shall be compacted to the following criteria:
   a. All but the upper 2 feet of the fill shall be compacted to 95 percent of ASTM 1557, Method D, maximum density.
   b. Upper 2 feet of fill shall be compacted to 100 percent of ASTM 1557, Method D, maximum density.
3. Frozen fill materials shall not be used and work shall not proceed during freezing weather except upon approval of, and under the regulations prescribed by the Engineer.

3.04 TRENCHING

A. General:

1. Underground power cable and patroleum piping runs shall be installed in trenches.
2. Trenches shall be of sufficient width to provide free working space on both sides of the trench and around the installed item as required for bedding, installation, backfilling, and compacting.

B. Depth: Trench depths of elevations shall be as shown on the drawings.

C. Trench side wall slopes shall be governed by soil conditions and shall conform to applicable safety standards.

D. Overdepth Excavation: Where trench excavation is inadvertently carried below grade, backfill with sand bedding material.

E. Trench Bracing: Support all trenches in accordance with all safety rules, and regulations, and good practice. Brace, sheet, and support trench walls in such a manner that they will be safe and that the ground alongside the excavation will not slide or settle, and that all existing improvements will be fully protected from damage.

3.05 FOUNDATION FOR PIPES AND CABLES

A. Grade the trench bottom to provide a smooth, firm, and stable foundation free from rock points and other protrusions.

B. Bedding: Place sand bedding material under and over pipes and cables to the dimension shown on the drawings.

C. In areas where soft, unstable material is encountered at the surface upon which cohesionless material is to be placed, remove the unstable material and replace it with material approved by the Engineer. Make removal of unsuitable material depth sufficient to develop a firm foundation for the item being installed.

D. At each joint in pipe, recess the bottom of the trench as required into the firm foundation in such a manner as to relieve the flange of the pipe of all load and to ensure continuous bearing of the pipe barrel on firm foundation. Shape all pipe subgrade and fit the bottom of the trench to the pipe shape. Use a drag template shaped to conform to the outer surface of the pipe if other methods do not produce satisfactory results.

3.06 BACKFILL FOR TRENCHING

A. Backfill material shall include a sand bedding and cover material, followed by Class F material as specified in paragraph 2.02 and 2.01 respectively of this section.

B. Bedding material shall be sufficiently compacted below the bottom of pipe and cable to maintain vertical alignment.

C. After the piping or cable has been thoroughly bedded and covered, spread the material in uniform lifts of not more than six inches in uncompacted thickness and compact to at least 95 percent of ASTM 1557, Method D, maximum density. Repeat the spreading and compacting procedure until adjacent grade level is attained.

3.07 FIELD QUALITY

A. Finishing of Type D Material:

1. Placed horizontally: height $\pm$ 3 inches.
2. Placed on side slopes: $\pm$ 3 inches measured perpendicular to slope.

B. Finishing of Type E and Type F Fill:

1. Causeway:
   a. Height: ± 3 inches.
   b. Placed on side slopes: ± 6 inches measured perpendicular to slope.
2. Onshore Facilities:
   a. Height: ± 1 inch.
   b. Slope:
      1) ± 3 inch divergence from slope shown on drawings.

END SECTION

NOME PORT FACILITY
CITY OF NOME, ALASKA
PROJ. NO. K-20000

SECTION 02270
ARMOR ROCK

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Furnish and place armor stone for protection of slopes and structures on causeway.

1.02 RELATED WORK

A. Section 01050: Field Engineering.

B. Section 01575: Haul Routes.

C. Section 02220: Earthwork.

D. Section 02363: Concrete Filled Steel Pipe Piles.

E. Section 02368: Rolled Steel Section Piles.

1.03 QUALITY ASSURANCE

A. The Contractor shall furnish to the Engineer such samples of rock material for testing as may be required by the Engineer from the Contractor's proposed quarry sites and from rock materials delivered to the project site.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM):

C88-76	Test for Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate.
C127-81	Specific Gravity and Absorption of Coarse Aggregate.
C535-69	Resistance to Abrasion of Large Size Coarse Aggregate by Use of the Los Angeles Machines.

1.05 REGULATORY REQUIREMENTS

A. Make all necessary arrangements with quarry property owners for right-of-way, easements and the like.

B. Obtain use permits from authorities having jurisdiction.

C. Make payment for any royalties, surface disturbance fees, and the like.

SECTION 02270
ARMOR ROCK

PART 2 - PRODUCTS

2.01 ROCK MATERIAL

A. Rock Sources:

1. Rock for the project may be obtained from any source provided the material meets specifications.
2. Samples of rock from the Cape Nome and the Loman Quarry site have been tested and a summary of the results is available in the document "Site Investigation Studies for the Port of Nome, Alaska; Vol. 1 Rock Analysis and Test Blast Results." Bidders and the Contractor are cautioned that the above mentioned deposits may be variable in quality, and the size and quality of rock that may be obtained from any source is unknown. Any discussion of a particular borrow source in the referenced documents in no way constitutes an approval or recommendation of that source.
3. The Contractor shall make his own arrangements to obtain suitable rock for the project.
4. The Contractor shall submit representative samples of rock from his proposed rock source for testing at least 30 days before the rock is required for use. The samples shall consist of four rock fragments with a total weight of not less than 200 pounds.
5. The Engineer reserves the right to make inspections of quarry sites and quarries. The approval by the Engineer of rock fragments from a particular quarry site shall not be construed as constituting the approval of all rock in the quarry, and the Contractor will be held responsible for the specified quality and gradation of all rock delivered to the project site. Rock not meeting the requirements of these specifications, as determined by tests and/or the Engineer's inspection at the quarry and/or the project site will be rejected.

B. Quarry Plan:

1. Following the selection of a quarry for rock materials, by the Contractor, he shall submit a quarry plan to the Engineer showing the proposed general plan of operations, including but not limited to:
   a. Name and location of quarry and owner's name.
   b. Work period, hours, and manpower.
   c. Type of equipment and purpose.
   d. Method of sorting and stockpiling.
   e. Haul equipment, route, and hours.
   f. Copies of federal, state, and local permits as may be required.

C. Quality: The armor rock shall meet the following requirements as to quality:

1. Individual blocks shall be dense, sound, and resistant to abrasion and shall be free from cracks, seams, and other defects that would tend to increase unduly their destruction by water and frost actions. Armor rock shall be prismoidal in shape. The maximum dimension of any rock shall not be more than 1.5 times the minimum dimension. Rocks which fracture under impact will be rejected.
2. Samples prepared in accordance with applicable ASTM designations shall meet the following requirements when tested by the procedures described in the respective designations:

Test	ASTM Designation	Requirements
Specific gravity (saturated surface-dry basis)	C127-81	Greater than 2.65
Soundness (sodium sulfate method)	C88-76	Less than 12 1/2% loss of weight after 5 cycles
Abrasion (using Los Angeles machine grading A)	C535-69	Less than 50 percent loss of weight after 500 revolutions

D. Gradation: The following gradation limits shall define the various classes of armor rock where shown on the drawings:

Class	Designated Weight	Tolerance	Use
A1	22 tons	+5,-3 tons	Primary armor
A2	20 tons	± 5 tons	Primary armor
A3	16 tons	± 4 tons	Primary armor
A4	12 tons	± 3 tons	Primary armor
A5	8 tons	± 2 tons	Primary armor
B2	2 tons	± 0.3 tons	Secondary armor
B3	1600 lbs	± 500 lbs	Secondary armor
C1	200 lbs	± 100 lbs	Tertiary armor
C2	80 lbs	± 40 lbs	Tertiary armor

A minimum of 75 percent of the rock in each class shall consist of rock above the designated weight.

SECTION 02270
ARMOR ROCK

PART 3 - EXECUTION

3.01 ARMOR ROCK PLACEMENT

A. Tertiary Armor:

1. Place in horizontal layers working from the bottom to the top as the height of the core or fill increases.
2. Rock shall be properly interlocked.
3. Placement shall follow closely behind placement of core or fill material and shall not lag further than 250 feet behind the advancing face of the core.

B. Secondary and Primary Armor:

1. Place in horizontal layers working from bottom to top as height of core or fill materials increases.
2. Rock shall not be placed with longest dimension parallel to the slope.
3. Rock shall be properly interlocked.
4. Rock shall not be placed parallel to the plane of the slope.
5. Interstices shall not be infilled with smaller armor.
6. Rock shall be placed with a grab type (orange peel) bucket or other similar type device, and shall not be tipped from vehicles, bulldozed, or dumped from rock tray into position.
7. Placement of secondary armor shall not lag more than 250 feet behind placement of tertiary armor.
8. Placement of primary armor shall not lag more than 250 feet behind placement of secondary armor.

3.02 TIMING RESTRICTIONS ON ARMOR PLACEMENT

A. Armor materials shall not be placed from the causeway breach, shoreward to the MHHW line during May 20 to July 1.

3.03 CLOSE DOWN OF WORK IN WINTER

A. Provide temporary protection against storm and ice attack to incomplete sections of the work.

B. Remove temporary protection upon resumption of work.

3.04 SETTLEMENT OF CORE OR FILL MATERIAL

A. Compensate for settlement during construction period to ensure armor layers in accordance with specification and contract documents.

END OF SECTION

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Nome Navigation Improvements

CONTRACTOR

SPECIFICATION SECTION
02220

ACTIVITY NO a.	TRANS-MITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERN-MENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.3	Work Plan					X							X										
			1.7	Blasting Plan					X							X										
			1.7	Blasting Plan					X							X										
			1.7	Blasting Plan					X							X										

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02222

DREDGING, EXCAVATION AND DISPOSAL

-- End of Section Table of Contents --

SECTION 02222

DREDGING, EXCAVATION AND DISPOSAL

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with SECTION 01330 SUBMITTAL DESCRIPTIONS:

SD-04 Drawings.

Quantity Computations and Cross-Sections; FIO.

Final Plan View Drawings; FIO.

1.2 WORK COVERED

Dredging shall include removal and disposal of all material as specified herein or indicated on the drawings.

1.3 CHARACTER OF MATERIALS

AM #2... Exploration logs for the area to be dredged and excavated along with a portion of a Design Memorandum dated August 1982 and various geotechnical data describing the project vicinity are enclosed in Appendix 02222A Subsurface Conditions. A photograph showing the known area of metal debris and the partially sunken barge dipicted on the drawings is enclosed in Appendix 02222B. A Soil Investigation dated May 1982 that contains exploration logs and geotechnical data for the project area is encloced in Appendix 02222C. Character of materials data do not necessarily represent the project area materials to be encountered over the entire project area. The composition of materials may vary significantly over the project area. Incidental sunken logs, boulders, rock, snags, cobbles, gravel, sand, silt, glacial till, miscellaneous metal debris, anchors, sunken boats and barges, old mining equipment and other miscellaneous debris from harbor, mining and fishing operations should be expected throughout the excavation and dredging areas. Glacial till is characterized as unstratified sediments such as cobbles, gravel, sand, silt, and clay intermingled in a dense, tight matrix. The metal debris consists of miscellaneous material from mining and harbor operations. It is located within the harbor in a pile with dimensions of approximately 30 x 30 x 10 feet. It is submerged at higher tide levels. The partially sunken barge is a steel flat deck barge with approximate dimensions of 140 x 35 x 7 feet. It may be filled or partially filled with sand and silt, and may be structurally or otherwise unsuitable to float.**...AM #2**

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 DREDGING AND EXCAVATION

3.1.1 General

The Contractor shall notify the Harbormaster in advance of dredging and excavation operations and verify the disposal site location. All dredging and excavation shall be performed to the depths and grades shown on the drawings, and within the areas shown.

3.1.2 Equipment Operation Limits

The Contractor shall restrict the placement of dredging and excavating equipment to only that actually required to accomplish the work as specified and as defined on the drawings. This includes operation of a clamshell, pipeline cutterhead and any other dredging or excavating equipment.

3.1.3 Side Slopes

Side slopes shall be excavated as shown on the drawings.

3.1.4 Maximum Pay line - Dredge Tolerance

No more than 0.5 feet below the project depth indicated on the drawings shall be included in quantities for payment. A plus or minus tolerance of 0.5 foot from the project depth indicated will be allowed.

3.1.5 Excessive Dredging or Excavation

If the Contracting Officer determines that over-dredging or over-excavation has resulted in incipient danger to foundations of structures or any in-harbor construction such as boat ramps, the Contractor shall restore the affected area with material approved by the Contracting Officer. The Contractor shall obtain the backfill from its own source.

3.2 DISPOSAL

3.2.1 General

The material removed shall be transported to and deposited in areas specified below. No temporary or intermediate placement or stockpiling of material will be allowed, except within the Contractor's boat or barge or in the locations specified on the drawings, unless prior approval is obtained from the Contracting Officer. Dredged material placed in temporary stockpile areas shall not encroach on nor impact other items of work (base and optional) in the contract.

3.2.2 Disposal Operations

Except as otherwise authorized by the Contracting Officer in writing, no material dredged by excavator, cutterhead and pipeline, or clamshell and scow or barge shall be dumped in any disposal area unless a representative of the Contracting Officer is present at the time. Any material that is deposited without a representative of the Contracting Officer present will not be paid for. For all such unwitnessed dumping, an average quantity will be estimated by the Government, and a deduction will be made to the final pay estimate based on unit prices current at the time of any such unwitnessed dumping. The Contractor shall assume

all risks in dredged material disposal operations. Any material that is deposited elsewhere than in places designated or approved by the Contracting Officer will not be paid for and the Contractor may be required to remove such misplaced material and deposit it where directed, at its expense. The Contractor shall be responsible for providing any necessary measures to dewater dredged material placed in the dredge disposal areas. Measures shall include any structures such as weirs, culverts, pipelines, etc. to control the dewatering of the material. Dewatering measures shall meet all State of Alaska and Clean Water Act water quality requirements including specified monitoring. Ponding in the dredge disposal area shall be limited to no greater than 3 feet, and ponded water shall not be allowed to overtop the disposal area berm. Dewatering measures shall be provided at the Contractor's expense.

3.2.3 Government-Furnished Disposal Area

The excavated material shall be transported and deposited in the areas noted on the contract drawings, unless an alternate disposal area is approved by the Contracting Officer.

3.3 SURVEYS

3.3.1 Pre-Dredge/Excavation Survey

The Contractor shall perform a pre-dredge/excavation survey of the areas to be dredged and used as temporary stockpile and disposal areas in accordance with SECTION 01016 SPECIAL ITEMS (CIVIL WORKS), immediately prior to work. The Contractor shall notify the Contracting Officer, in writing, of his intent to survey, at least 10 days before beginning the survey.

3.3.2 Interim Condition Surveys

Interim condition surveys shall be conducted after removal of material, or portions thereof, to quantify material removed. Two interim condition surveys shall be conducted. The pattern and timing of condition surveys shall be subject to mutual agreement between the contractor and the Contracting Officer. Any daily soundings taken shall be provided with the Contractor's Quality Control Report for the day the soundings were taken.

3.3.3 Post-Dredge/Excavation Survey

A post-dredge/excavation survey to determine if the project depths have been attained over the entire project area shall be performed immediately following the work, in accordance with SECTION 01016 SPECIAL ITEMS (CIVIL WORKS). The Contractor shall notify the Contracting Officer at least 3 days in advance of beginning the survey. If project depths have not been attained, the Contractor shall remove the required additional material and a re-survey of the area shall be performed. This process shall be repeated until the required project depths are achieved at no additional cost to the government. The post-dredge survey shall also include dredged material disposal and temporary stockpile areas.

The Contractor shall provide proof to the Government's Quality Assurance Representative that the entire project has been dredged to project depth prior to demobilizing from the project. Proof of project depth shall be

provided by displaying the project limits and the reduced survey data on a computer monitor, on a paper drawing; or on fathometer tapes showing tide readings and project limits; or by other methods approved by the Contracting Officer's Representative.

3.3.4 Topographic Survey

The contractor shall perform topographic surveys of all areas above MLLW where dredging or dredge disposal will occur in accordance with SECTION 01016 SPECIAL ITEMS (CIVIL WORKS). The work area shall be surveyed immediately prior to beginning work and then surveyed again immediately after the work has been completed. Data shall be collected, recorded, and plotted at 25-foot intervals on a grid that covers the project area to generate 0.5-foot contours. All topographic survey information shall be submitted with the final plan-view drawings and final cross-sections.

3.3.5 Final Plan-View Drawings

The Contractor shall reduce the survey elevations from the post-dredge excavation survey to the nearest tenth of a foot and plot them onto plan-view mylars computer-generated by the hydrographic surveyor. Soundings shall be recorded and plotted at 25-foot intervals on a grid that covers the project area. Contours shall be plotted with one-foot contour intervals for areas below MLLW and half-foot contour intervals for areas above MLLW. Intermediate soundings shall be recorded and plotted where hydrographic anomalies or obstacles of 3 feet or greater are encountered. All pertinent title block information shall be printed within the block. Any information found in error on the Government-furnished drawings, such as vicinity maps, notes, shorelines, floats, docks, navigation aids, control coordinates, etc., shall be eradicated and replaced with accurate data as it becomes known. Plan View drawings shall be submitted to the Contracting Officer within ten (10) days after completion of the survey in accordance with SECTION 01016 SPECIAL ITEMS (CIVIL WORKS).

3.3.6 Quantity Computations and Cross-Sections

The surveyor shall plot final cross-sections showing the pre-dredge excavation survey, the post-dredge excavation survey, design template side
slopes, project depth, and overdepth limit for each 100-foot station. Cross-section plots shall have the same scale vertically and horizontally.
All requirements of SECTION 01016 SPECIAL ITEMS (CIVIL WORKS) shall be met. The surveyor shall also compute quantities for all materials removed
using the surveys listed above using 25-foot station increments for calculations. Final cross-sections and quantity computations shall be submitted to the Contracting Officer within (10) days of completion of the final survey.

3.4 ATTACHMENTS

Appendix 02222A: Subsurface Conditions
Appendix 02222B: Photo of Metal Debris
Appendix 02222C: Soil Investigation, Port of Nome, Nome, Alaska, May 1982

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Nome Navigation Improvements

CONTRACTOR

SPECIFICATION SECTION
02222

ACTIVITY NO a.	TRANS-MITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	DATE w.	SUBMIT TO GOVERN-MENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.1	Quantity Computations and		X									X											
				Cross-Sections																						
			1.1	Final Plan View Drawings		X									X											